

chain nodes :

16

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ring/chain nodes :

17

chain bonds :

5-16 16-17

ring bonds :

1-2 1-7 2-3 2-8 3-4 3-11 4-5 5-6 6-7 6-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

exact/norm bonds :

1-2 1-7 3-4 4-5 5-6 16-17

exact bonds :

5-16

normalized bonds :

2-3 2-8 3-11 6-7 6-12 7-15 8-9 9-10 10-11 12-13 13-14 14-15

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom
13:Atom 14:Atom 15:Atom 16:CLASS 17:CLASS

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=> d his

(FILE 'HOME' ENTERED AT 16:05:28 ON 21 OCT 2006)

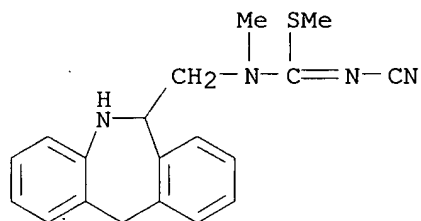
FILE 'REGISTRY' ENTERED AT 16:11:00 ON 21 OCT 2006

| | |
|----|-----------------------|
| L1 | STRUCTURE UPLOADED |
| L2 | 3 S L1 |
| L3 | 79 S L1 SSS FUL |
| L4 | 78 S L3 AND CAPLUS/LC |
| L5 | 1 S L3 NOT L4 |

=> d .

10/510,008

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 746575-89-3 REGISTRY
ED Entered STN: 17 Sep 2004
CN Carbamimidothioic acid, N'-cyano-N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N-methyl-, methyl ester (9CI) (CA INDEX NAME)
MF C19 H20 N4 S
CI COM
SR CA



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

10/510,008

=> => d his

(FILE 'HOME' ENTERED AT 16:05:28 ON 21 OCT 2006)

FILE 'REGISTRY' ENTERED AT 16:11:00 ON 21 OCT 2006

L1 STRUCTURE UPLOADED

L2 3 S L1

L3 79 S L1 SSS FUL

L4 78 S L3 AND CAPLUS/LC

L5 1 S L3 NOT L4

FILE 'CAPLUS' ENTERED AT 16:13:27 ON 21 OCT 2006

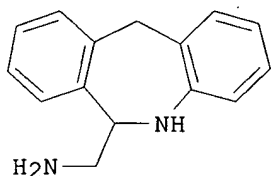
L6 33 S L3

=> d ibib abs hit'str total

10/510,008

16 ANSWER 1 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:760395 CAPLUS
DOCUMENT NUMBER: 145:249115
TITLE: Preparation method of 6-aminomethyl-
6,11-dihydro-5H-dibenz[b,e]azepin
INVENTOR(S): Kang, Jae Hun; Kim, Gi Won; Lee, Don Gyu; Seo, Myeong
Won
PATENT ASSIGNEE(S): Il Dong Pharm Co., Ltd., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------|------|----------|-----------------|----------|
| KR 2004072009 | A | 20040816 | KR 2003-7939 | 20030207 |
| PRIORITY APPLN. INFO.: GI | | | KR 2003-7939 | 20030207 |



AB A method for the preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepin (I), thereby improving preparation yield and purity, and stably and cheaply preparing the compound under mild condition, so that the compound can be useful as an intermediate for production of medicines such as anti-histamine, is reported. The preparation method of 6-aminomethyl- 6,11-dihydro-5H-dibenz[b,e]azepin comprises hydrogenation in an alc. solvent in the presence of noble metal catalyst and inorg. acid. The noble metal catalyst is selected from palladium carbon, palladium black, palladium, platinum, platinum carbon, platinum oxide, rhodium, ruthenium and ruthenium carbon. The inorg. acid is selected from hydrochloric acid and sulfuric acid and the solvent is a C1-C4 lower alc.

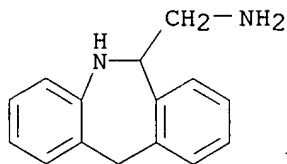
IT 41218-84-2P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation method of 6-aminomethyl- 6,11-dihydro-5H-dibenz[b,e]azepin)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



10/510,008

16 ANSWER 2 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:72777 CAPLUS

DOCUMENT NUMBER: 142:155838

TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine from N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoroacetamide

INVENTOR(S): Sasaki, Ryosuke; Ikeda, Shin; Suzuki, Yoshinobu; Takahashi, Yasuhiro

PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

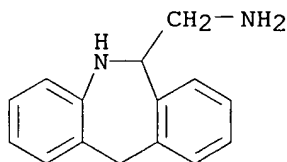
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

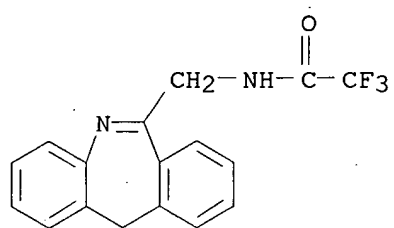
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|--------|----------|-----------------|----------|
| | JP 2005023034 | A2 | 20050127 | JP 2003-191388 | 20030703 |
| PRIORITY APPLN. INFO.: | | | | JP 2003-191388 | 20030703 |
| AB | 6-Aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine (I), useful as an intermediate for antiallergy and antihistaminic 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine, is prepared from N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoroacetamide (II). Use of II requires no toxic hydrazine and shortens process. Thus, 5.0 g II, prepared from 6-chloromethyl-11H-dibenz[b,e]azepine and CF ₃ CONH ₂ , was reacted with NaBH ₄ in EtOH at room temperature for 2 h to give 2.8 g I. | | | | |
| IT | 41218-84-2P | | | | |
| | RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (preparation of (aminomethyl)dihydrodibenzazepine by reductive deacetylation of N-(dibenzazepinylmethyl)trifluoroacetamide) | | | | |
| RN | 41218-84-2 | CAPLUS | | | |
| CN | 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME) | | | | |



IT 828939-27-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (aminomethyl)dihydrodibenzazepine by reductive deacetylation of N-(dibenzazepinylmethyl)trifluoroacetamide)

RN 828939-27-1 CAPLUS

CN Acetamide, N-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,2,2-trifluoro- (9CI)
(CA INDEX NAME)



10/510,008

16 ANSWER 3 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:926567 CAPLUS

DOCUMENT NUMBER: 142:134594

TITLE: Method for preparation of epinastine and pharmaceutically acceptable salt thereof

INVENTOR(S): Hong, Du Pyo; Oh, Seong Su; Shin, Pil Su

PATENT ASSIGNEE(S): Bionast Co., Ltd., S. Korea

SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given

CODEN: KRXXA7

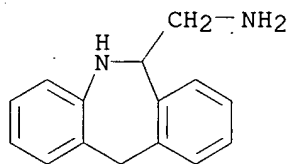
DOCUMENT TYPE: Patent

LANGUAGE: Korean

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| KR 2002091539 | A | 20021206 | KR 2001-30304 | 20010531 |
| PRIORITY APPLN. INFO.: | | | KR 2001-30304 | 20010531 |
| AB Provided is a method for the preparation of epinastine which treats and prevents ache dolor pain and migraine headache, and its pharmaceutically acceptable salt. The method for the preparation of epinastine of the formula(I) is characterized by comprising the step of carrying out the reaction of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine of the formula(II) to cyanamid of the formula(III) or potassium cyanate rather than cyanogenbromide, bromine and N-methyl-benzylamine. | | | | |
| IT 41218-84-2 | | | | |
| RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of epinastine) | | | | |
| RN 41218-84-2 CAPLUS | | | | |
| CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME) | | | | |



10/510,008

16 ANSWER 4 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:408271 CAPLUS

DOCUMENT NUMBER: 140:423521

TITLE: Preparation of xanthenes as inhibitors of dipeptidyl
peptidase IV (DPP-IV)

INVENTOR(S): Himmelsbach, Frank; Langkopf, Elke; Eckhardt,
Matthias; Maier, Roland; Mark, Michael; Tadayyon,
Mohammad; Lotz, Ralf

PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G.,
Germany

SOURCE: Ger. Offen., 39 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

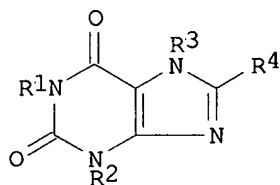
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|------------------|------------|
| DE 10251927 | A1 | 20040519 | DE 2002-10251927 | 20021108 |
| US 2004138214 | A1 | 20040715 | US 2003-695597 | 20031028 |
| CA 2505389 | AA | 20040521 | CA 2003-2505389 | 20031103 |
| WO 2004041820 | A1 | 20040521 | WO 2003-EP12198 | 20031103 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2003293649 | A1 | 20040607 | AU 2003-293649 | 20031103 |
| EP 1562946 | A1 | 20050817 | EP 2003-788995 | 20031103 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| JP 2006512311 | T2 | 20060413 | JP 2004-548847 | 20031103 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10251927 | A 20021108 |
| | | | US 2002-429173P | P 20021126 |
| | | | WO 2003-EP12198 | W 20031103 |

OTHER SOURCE(S): MARPAT 140:423521
GI



AB Title compds. [I; R1 = (condensed heterocyclyl-substituted) C1-3 alkyl,

etc.; R2 = H, alkyl, alkenyl, alkynyl, cycloalkyl, etc.; R3 = (substituted) alkyl, aryl, alkenyl, alkynyl, etc.; R4 = (substituted) azetidin-1-yl, pyrrolidin-1-yl, piperidin-1-yl, hexahydroazepin-1-yl, etc.] and tautomers, stereoisomers, mixts., prodrug, and salts thereof, were prepared. Thus, 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-[3-(tert-butyloxycarbonylamino)piperidin-1-yl]xanthine (preparation given) in CH₂Cl₂ was treated with isopropanolic HCl followed by stirring for 3 h at room temperature to give 77% 1-[(1-methyl-2,2-dioxo-1H-benzo[c][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-aminopiperidin-1-yl)xanthine. The latter inhibited DPP-IV with IC₅₀ = 13 nM.

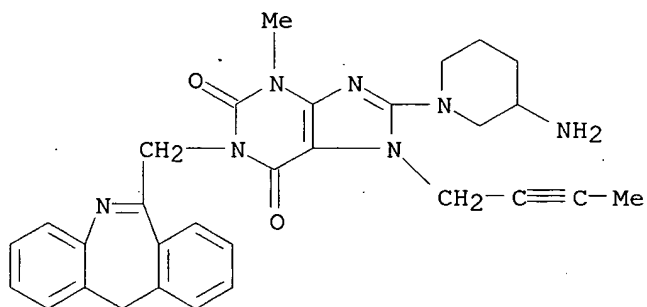
IT 690996-72-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-72-6 CAPLUS

CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butyryl)-1-(11H-dibenz[b,e]azepin-6-ylmethyl)-3,7-dihydro-3-methyl- (9CI) (CA INDEX NAME)



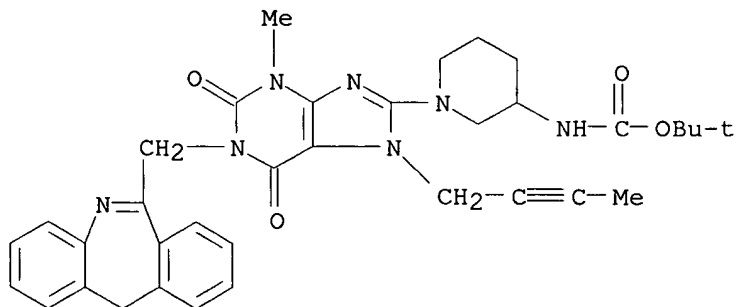
IT 690996-56-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of xanthines as inhibitors of dipeptidyl peptidase IV (DPP-IV))

RN 690996-56-6 CAPLUS

CN Carbamic acid, [1-[7-(2-butyryl)-1-(11H-dibenz[b,e]azepin-6-ylmethyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



10/510,008

~~L6~~ ANSWER 5 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

~~AC~~CESSION NUMBER: 2004:202758 CAPLUS

~~DO~~CUment NUMBER: 142:176618

TITLE: Product subclass 6: benzazepines and their group 15 analogues

AUTHOR(S): Meigh, J.-P. K.

CORPORATE SOURCE: Germany

SOURCE: Science of Synthesis (2004), 17, 825-927

CODEN: SSCYJ9

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Methods for preparing benzazepines and their Group 15 analogs are reviewed including cyclization, ring transformation, aromatization and substituent modification.

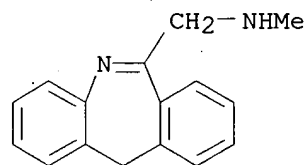
IT 46880-91-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of benzazepine and their Group 15 analogs via cyclization, ring transformation, aromatization and substituent modification)

RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 234 THERE ARE 234 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

10/510,008

15 ANSWER 6 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:139103 CAPLUS
DOCUMENT NUMBER: 140:181339
TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride
INVENTOR(S): Kawahara, Hiroshi; Mori, Masahiko; Hirai, Yasuo; Uchiyama, Yoshitaka
PATENT ASSIGNEE(S): Daito Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| JP 2004051585 | A2 | 20040219 | JP 2002-213441 | 20020723 |

PRIORITY APPLN. INFO.: JP 2002-213441 20020723

AB Title dibenzazepine derivative (I) is prepared by reduction of 6-succinimidomethyl-5H-dibenzo[b,e]azepine (II) with metal hydrides, followed by hydrolysis of the resulting 6-succinimidomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine (III) with alkali metal hydroxide. Thus, hydrogenation of II by Na triacetoxyborohydride in presence of AcOH gave 91.5% III, which was hydrolyzed in aqueous NaOH at 120-130° for 8 h to afford 90% I.

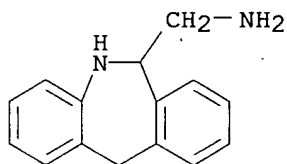
IT 80012-79-9P 339163-79-0P
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (aminomethyl)dihydrodibenzazepine as intermediate for epinastine HCl from (succinimidomethyl)dibenzazepine)

RN 80012-79-9 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2
CMF C15 H16 N2

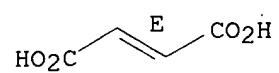


CM 2

CRN 110-17-8
CMF C4 H4 O4

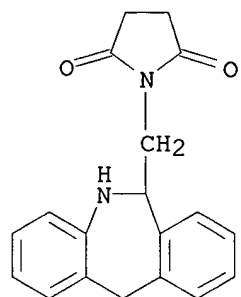
Double bond geometry as shown.

10/510,008



RN 339163-79-0 CAPLUS

CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-
(9CI) (CA INDEX NAME)



10/510,008

16 ANSWER 7 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:883057 CAPLUS

DOCUMENT NUMBER: 139:364845

TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for antiallergic epinastine hydrochloride

INVENTOR(S): Matsumori, Yuki; Maekawa, Shigeharu

PATENT ASSIGNEE(S): Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2003321454 | A2 | 20031111 | JP 2002-133606 | 20020509 |
| PRIORITY APPLN. INFO.: | | | JP 2002-133606 | 20020509 |

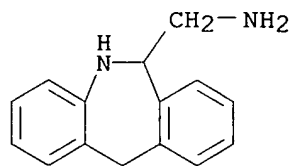
AB The title compound (I) is prepared by treatment of 6-chloromethyl-5H-dibenzo[b,e]azepine (II) with 4-nitrophthalimide (III), reduction of the resulting 6-(4-nitrophthalimidomethyl)-5H-dibenzo[b,e]azepine (IV) with NaBH₄ or NaBH(OAc)₃, and hydrazinolysis of the resulting 6-(4-nitrophthalimidomethyl)-6,11-dihydro-5H-dibenzo[b,e]azepine (V). Thus, refluxing II with III, K₂CO₃, and KI in MeCN gave 95% IV, which was treated with a mixture of NaBH₄ and AcOH at ≤30° under stirring for 2 h to give 96% V. Decomposition of with H₂NNH₂·H₂O in ethylene glycol at 110° for 2 h and the crude product was treated with fumaric acid to give 90% I fumarate. Preparation of epinastine hydrochloride by cyclocondensation of V with BrCN and salt formation with HCl was also shown.

IT 41218-84-2P 127785-96-0P 622402-85-1P
622402-86-2P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for antiallergic epinastine hydrochloride)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



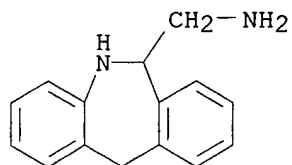
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

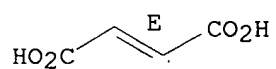


CM 2

CRN 110-17-8

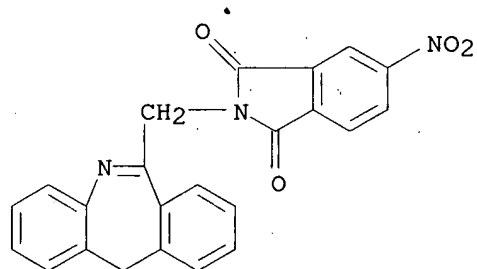
CMF C4 H4 O4

Double bond geometry as shown.



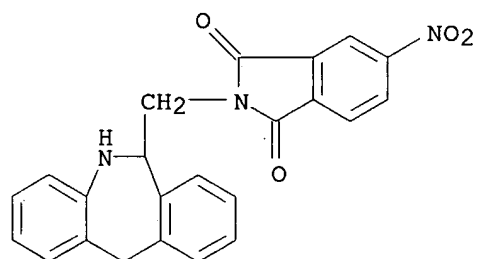
RN 622402-85-1 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-5-nitro-
(9CI) (CA INDEX NAME)



RN 622402-86-2 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-5-nitro- (9CI) (CA INDEX NAME)



~~16~~ ANSWER 8 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:841781 CAPLUS
 DOCUMENT NUMBER: 140:94009
 TITLE: Stereoselective synthesis of (R)-(-)-mianserin
 AUTHOR(S): Pawlowska, J.; Czarnocki, Z.; Wojtasiewicz, K.;
 Maurin, J. K.
 CORPORATE SOURCE: Faculty of Chemistry, Warsaw University, Warsaw,
 02-093, Pol.
 SOURCE: Tetrahedron: Asymmetry (2003), 14(21), 3335-3342
 CODEN: TASYE3; ISSN: 0957-4166
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 140:94009

AB (14BR)-2-Methyl-1,2,3,4,10,14b-hexahydrodibenzo[c,f]pyrazino[1,2-a]azepine, (R)-(-)-mianserin, was synthesized in several steps in good enantiomeric purity with the use of (S)-(-)- α -methylbenzylamine. The absolute configuration was assigned on the basis of X-ray data.

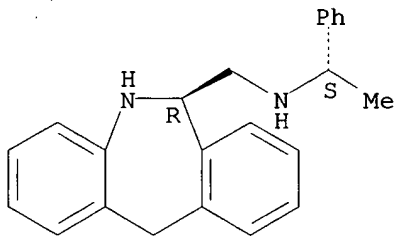
IT 642442-04-4P 642442-05-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (cyclocondensation of; multistep stereoselective synthesis of enantiomerically pure mianserin)

RN 642442-04-4 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(1S)-1-phenylethyl]-, (6R)- (9CI) (CA INDEX NAME)

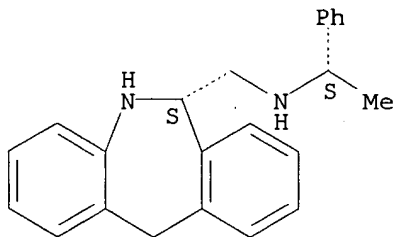
Absolute stereochemistry. Rotation (-).



RN 642442-05-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(1S)-1-phenylethyl]-, (6S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



IT 642442-03-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

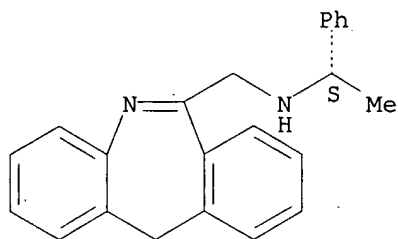
10/510,008

(reduction of; multistep stereoselective synthesis of enantiomerically pure mianserin)

RN 642442-03-3 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-[(1S)-1-phenylethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT:

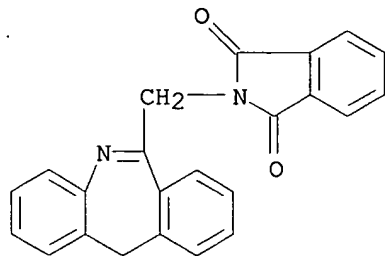
21

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

APPLICANT
 ACCESSION NUMBER: 2003:818400 CAPLUS
 DOCUMENT NUMBER: 139:292167
 TITLE: Method for preparing 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine
 INVENTOR(S): Ikeda, Shin; Takahashi, Yasuhiro
 PATENT ASSIGNEE(S): Konica Chemical Corporation, Japan
 SOURCE: PCT Int. Appl., 12 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|------------|
| WO 2003084932 | A1 | 20031016 | WO 2002-JP3602 | 20020411 |
| W: BR, CN, IN, KR, MX, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| EP 1496051 | A1 | 20050112 | EP 2002-714572 | 20020411 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| CN 1625551 | A | 20050608 | CN 2002-828864 | 20020411 |
| US 2005209215 | A1 | 20050922 | US 2004-510008 | 20040930 |
| PRIORITY APPLN. INFO.: | | | WO 2002-JP3602 | W 20020411 |
| <p>AB The patent relates to the preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine, characterized in that it comprises reducing 2-(11H-dibenz[b,e]azepine-6-ylmethyl)-1H-isoindole-1,3(2H)-dione with a metal hydride or a metal hydrogen complex compound in an aqueous alc. solvent, to form N-[(6,11-dihydro-5H-dibenz[b,e]azepine-6-yl)methyl]-o-hydroxymethylbenzamide; and 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine. Thus, N-[(6,11-dihydro-5H-dibenz[b,e]azepine-6-yl)methyl]-o-hydroxymethylbenzamide was prepared by reduction of 2-(11H-dibenz[b,e]azepine-6-ylmethyl)-1H-isoindole-1,3(2H)-dione with sodium borohydride in isopropanol at 30°.</p> | | | | |
| <p>IT 74860-00-7</p> <p>RL: RCT (Reactant); RACT (Reactant or reagent)</p> <p>(in preparation of hydroxymethylbenzamide azepine derivative)</p> | | | | |
| <p>RN 74860-00-7 CAPLUS</p> | | | | |
| <p>CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)</p> <p>(CA INDEX NAME)</p> | | | | |



IT 608489-39-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (in preparation of hydroxymethylbenzamide azepine derivative)

10/510,008

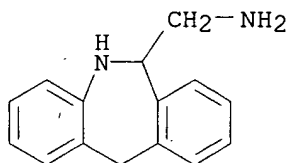
RN 608489-39-0 CAPLUS

CN Formic acid, compd. with 6,11-dihydro-5H-dibenz[b,e]azepine-6-methanamine
(9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

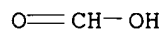
CMF C15 H16 N2



CM 2

CRN 64-18-6

CMF C H2 O2

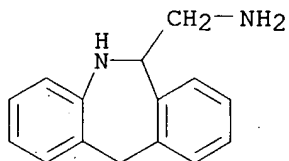


IT 41218-84-2P 439288-43-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of hydroxymethylbenzamide azepine derivative)

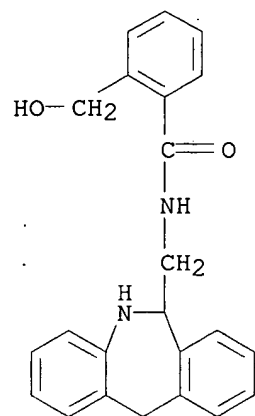
RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



RN 439288-43-4 CAPLUS

CN Benzamide, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-2-
(hydroxymethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

9

THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/510,008

16 ANSWER 10 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:20014 CAPLUS

DOCUMENT NUMBER: 138:73185

TITLE: Reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst.

INVENTOR(S): Leone, Mario

PATENT ASSIGNEE(S): IcroM S.p.A., Italy

SOURCE: Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

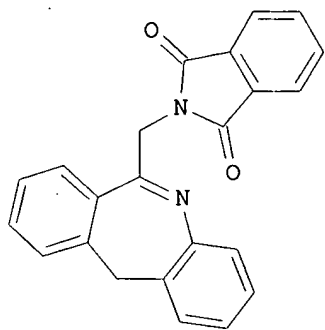
DOCUMENT TYPE: Patent

LANGUAGE: English

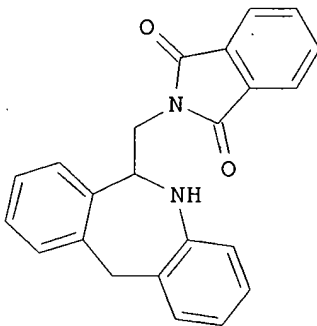
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|--------------------|----------|-----------------|----------|
| EP 1273583 | A1 | 20030108 | EP 2001-116077 | 20010703 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| PRIORITY APPLN. INFO.: | | | EP 2001-116077 | 20010703 |
| OTHER SOURCE(S): | CASREACT 138:73185 | | | |
| GI | | | | |



I



II

AB 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione (I) was reduced to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione (II) in an organic solvent, in the presence of a group VIIIB metallic catalyst and HCO₂H and/or ≥1 pharmaceutically acceptable salt thereof. Thus, I was stirred with HCO₂H, NH₃, and Pd/C in dimethylacetamide at 80° for 3 h to give 92% II.

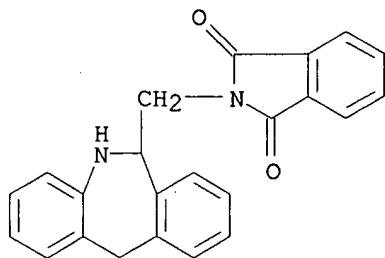
IT 143878-20-0P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



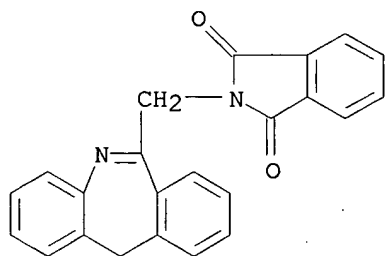
IT 74860-00-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reduction of 2-(11H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione to 2-(6,11-dihydro-5H-dibenz[b,e]azepin-6-ylmethyl)-1H-isoindole-1,3(2H)-dione using formic acid and a metallic catalyst)

RN 74860-00-7 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)
(CA INDEX NAME)



REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/510,008

18 ANSWER 11 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:802417 CAPLUS

DOCUMENT NUMBER: 137:310828

TITLE: Preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride, antiallergy agent

INVENTOR(S): Kawahara, Hiroshi; Mori, Masahiko; Hirai, Yasuo

PATENT ASSIGNEE(S): Daito K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

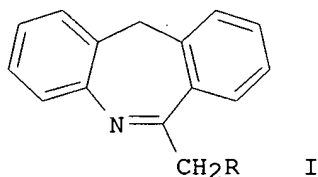
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|---------------------|-----------------|----------|
| JP 2002308851 | A2 | 20021023 | JP 2001-114825 | 20010413 |
| PRIORITY APPLN. INFO.: | | | JP 2001-114825 | 20010413 |
| OTHER SOURCE(S): | | CASREACT 137:310828 | | |
| GI | | | | |



AB Title dibenzazepine derivative (I) is prepared from chloromethyl derivative II (R =

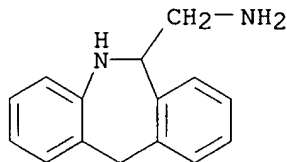
Cl) via II (R = succinimido) and 6-succinimidomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine (III). Thus, refluxing II (R = Cl) with succinimide, K₂CO₃, and KI in MeCN gave quant. II (R = succinimido), which was hydrogenated over Pd/C in the presence of HCO₂H in DMF under normal pressure to afford 90% III. Decomposition of III with NH₂NH₂·H₂O in ethylene glycol and aqueous NaOH gave 90% I.

IT 41218-84-2P 127785-96-0P 339163-78-9P
339163-79-0P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of 6-aminomethyl-6,11-dihydro-5H-dibenzo[b,e]azepine as intermediate for epinastine hydrochloride)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



10/510,008

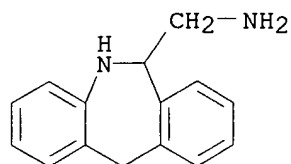
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

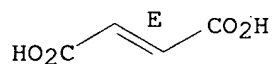


CM 2

CRN 110-17-8

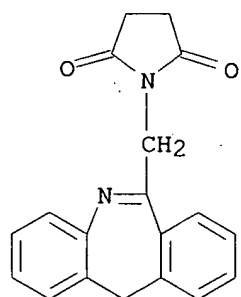
CMF C4 H4 O4

Double bond geometry as shown.



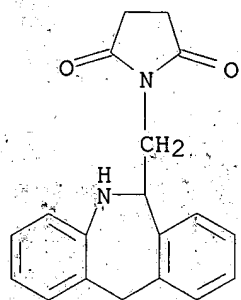
RN 339163-78-9 CAPLUS

CN 2,5-Pyrrolidinedione, 1-[(11H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



RN 339163-79-0 CAPLUS

CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-
(9CI) (CA INDEX NAME)



L6 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:514281 CAPLUS

DOCUMENT NUMBER: 137:63183

TITLE: One-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine without using hydrazine

INVENTOR(S): Enomoto, Takahiro; Sasaki, Ryosuke; Ikeda, Nobu; Takahashi, Yasuhiro

PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 2002193939 | A2 | 20020710 | JP 2000-395744 | 20001226 |
| PRIORITY APPLN. INFO.: | | | JP 2000-395744 | 20001226 |

OTHER SOURCE(S): CASREACT 137:63183

AB Title compound (I) is prepared by treatment of 6-phthalimidomethyl-5H-dibenz[b,e]azepine (II) with metal hydride (complex) via N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-o-hydroxymethylbenzamide. Thus, II was treated with NaBH₄ at room temperature overnight in aqueous isopropanol, treated with AcOH, adjusted to pH 11, extracted

with MePh, concentrated, and treated with MeOH solution of fumaric acid to give 69.0% I fumarate.

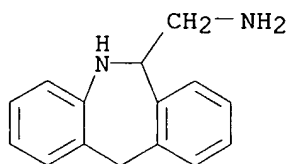
IT 41218-84-2P 439288-43-4P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine)

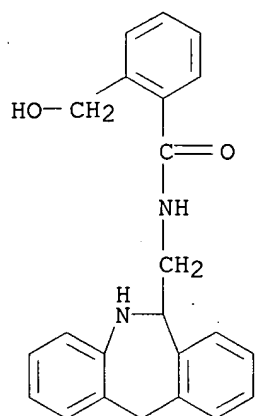
RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)

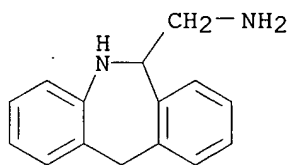


RN 439288-43-4 CAPLUS

CN Benzamide, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-2-(hydroxymethyl)- (9CI) (CA INDEX NAME)

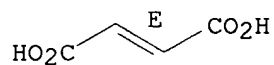


IT 127785-96-0P
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
 (Preparation)
 (one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine)
 RN 127785-96-0 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
 (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 41218-84-2
 CMF C15 H16 N2

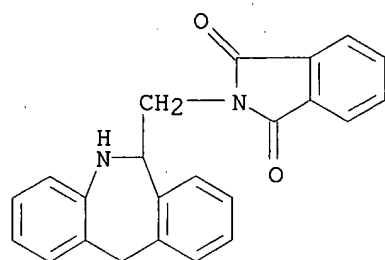


CM 2
 CRN 110-17-8
 CMF C4 H4 O4

Double bond geometry as shown.



IT 143878-20-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (one-pot preparation of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine)
 RN 143878-20-0 CAPLUS
 CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



10/510,008

10 ANSWER 13 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:513077 CAPLUS

DOCUMENT NUMBER: 137:80614

TITLE: Production method of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine

INVENTOR(S): Ikeda, Nobu; Takahashi, Yasuhiro

PATENT ASSIGNEE(S): Konika Chemical Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

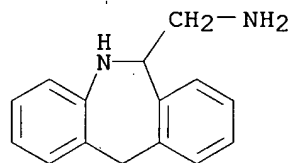
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|-----------------|----------|
| ----- | ---- | ----- | ----- | ----- |
| JP 2002193940 | A2 | 20020710 | JP 2000-395753 | 20001226 |
| PRIORITY APPLN. INFO.: | | | JP 2000-395753 | 20001226 |
| AB | The title compound (I) is prepared by hydrogenation of 6-cyano-11H-dibenz[b,e]azepine in a lower fatty acid solvent in the presence of a precious metal catalyst. I is a pharmaceutical intermediate. | | | |
| IT | 127785-96-0P RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation) (hydrogenation of 6-cyano-11H-dibenz[b,e]azepine) | | | |
| RN | 127785-96-0 CAPLUS | | | |
| CN | 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (1:1) (9CI) (CA INDEX NAME) | | | |
| CM | 1 | | | |
| CRN | 41218-84-2 | | | |
| CMF | C15 H16 N2 | | | |

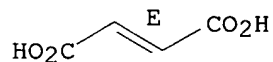


CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



IT 41218-84-2P

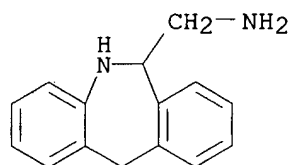
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

10/510,008

(production method of 6-aminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine as pharmaceutical intermediate)

RN 41218-84-2 CAPLUS

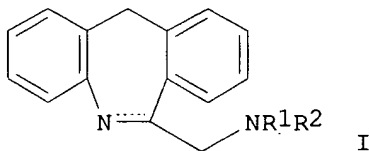
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



10/510,008

16 ANSWER 14 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:843692 CAPLUS
DOCUMENT NUMBER: 135:371654
TITLE: Preparation of 6-aminomethyl-5,6-
dihydromorphanthridine
INVENTOR(S): Watanabe, Hiroyuki; Kawanobe, Tsuneo
PATENT ASSIGNEE(S): Hasegawa Koryo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT. NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--|----------|
| JP 2001322982 | A2 | 20011120 | JP 2000-140638 | 20000512 |
| PRIORITY APPLN. INFO.: | | | JP 2000-140638 | 20000512 |
| OTHER SOURCE(S): | | | CASREACT 135:371654; MARPAT 135:371654 | |
| GI | | | | |

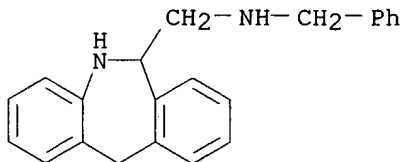


AB Title compound is prepared by catalytic hydrogenation of I (R1 = NH2-protecting group; R2 = H, NH2-protecting group; dotted line represents optional bond). Benzylamine was reacted with 6-chloromethylmorphanthridine under ice-cooling for 5 h and hydrogenated with H in the presence of Pd/C in MeOH at 80° under 0.5 MPa for 5 h to give 63% 6-aminomethyl-5,6-dihydromorphanthridine.

IT 41218-94-4P, 6-(Benzylamino)methyl-5,6-dihydromorphanthridine
374557-57-0P, 6-(Benzylamino)methylmorphanthridine
374557-58-1P, 6-(4-Methoxybenzylamino)methyl-5,6-dihydromorphanthridine 374557-59-2P, 6-(4-Methoxybenzylamino)methylmorphanthridine
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of aminomethyldihydromorphanthridine)

RN 41218-94-4 CAPLUS

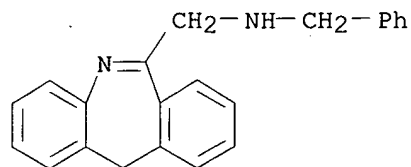
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 374557-57-0 CAPLUS

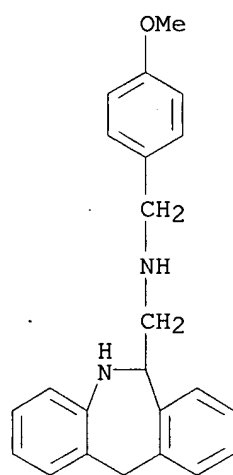
10/510,008

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-(phenylmethyl)- (9CI) (CA INDEX NAME)



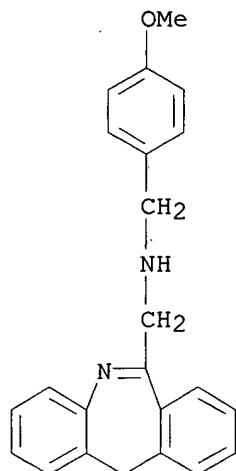
RN 374557-58-1 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-[(4-methoxyphenyl)methyl]- (9CI) (CA INDEX NAME)

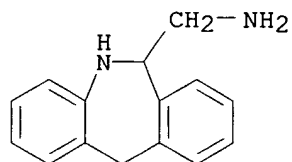


RN 374557-59-2 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-[(4-methoxyphenyl)methyl]- (9CI) (CA INDEX NAME)



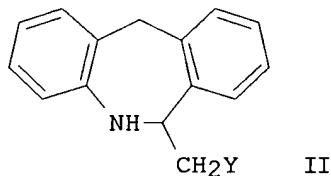
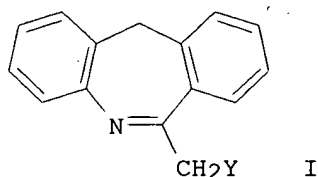
IT 41218-84-2P, 6-Aminomethyl-5,6-dihydromorphanthridine
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
 (Preparation)
 (preparation of aminomethyldihydromorphanthridine)
 RN 41218-84-2 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



16 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:347102 CAPLUS
 DOCUMENT NUMBER: 134:353305
 TITLE: Preparation of dibenz[c,f]imidazo[1,5-a]azepines for
 antiallergic agents and its intermediates
 INVENTOR(S): Shimamura, Hiroshi; Terashima, Koji; Yamashita,
 Takehiko
 PATENT ASSIGNEE(S): Ohara Yakuhin Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--|----------|
| JP 2001131177 | A2 | 20010515 | JP 1999-317070 | 19991108 |
| PRIORITY APPLN. INFO.: | | | JP 1999-317070 | 19991108 |
| OTHER SOURCE(S): | | | CASREACT 134:353305; MARPAT 134:353305 | |
| GI | | | | |

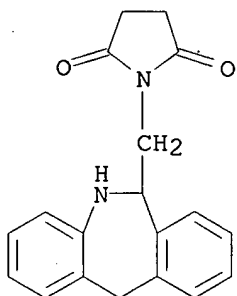


- AB 3-Amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrohalides, useful for antiallergic agents (no data), are prepared by hydrogenation of dibenzazepines I (Y = imide group), reaction of dihydrodibenzazepines II (Y = imide group) with amines, and reaction of 6-(aminomethyl)-6,11-dihydro-5H-dibenz[b,e]azepine with cyanogen halides. 6-(Succinimidomethyl)-5H-dibenz[b,e]azepine was hydrogenated with H in the presence of Pd/C in DMF at 50° and reacted with ethylenediamine in MeOCH₂CH₂OH under reflux for 16 h to give 6-(aminomethyl)-6,11-dihydro-5H-dibenz[b,e]azepine, which was cyclized with BrCN in CH₂Cl₂ at room temperature for 8 h to give 80% 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrobromide.
- IT 339163-79-0P 339163-80-3P, 11H-Dibenz[b,e]azepine-6-methanamine
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic)

preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of dibenzimidazoazepines by hydrogenation, amination, and cyclization)

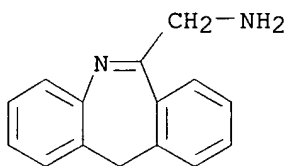
RN 339163-79-0 CAPLUS

CN 2,5-Pyrrolidinedione, 1-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-
(9CI) (CA INDEX NAME)



RN 339163-80-3 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine (9CI) (CA INDEX NAME)



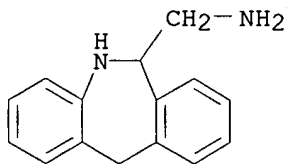
IT 41218-84-2P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
(Preparation)

(preparation of dibenzimidazoazepines by hydrogenation, amination, and cyclization)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



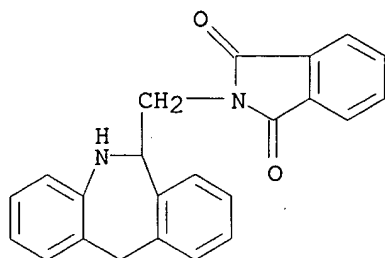
IT 143878-20-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of dibenzimidazoazepines by hydrogenation, amination, and cyclization)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



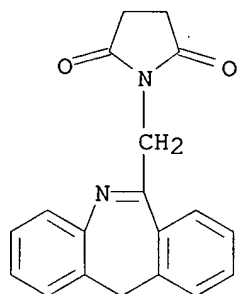
IT 339163-78-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of dibenzimidazoazepines by hydrogenation, amination, and cyclization)

RN 339163-78-9 CAPLUS

CN 2,5-Pyrrolidinedione, 1-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI) (CA INDEX NAME)



10/510,008

16 ANSWER 16 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:174091 CAPLUS

DOCUMENT NUMBER: 134:222712

TITLE: Preparation of antiallergic epinastine and imidazoline compounds as their intermediates

INVENTOR(S): Masagaki, Takeshi; Kakita, Takao; Deguchi, Shuhei

PATENT ASSIGNEE(S): Sawai Pharmaceutical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|--|----------|
| JP 2001064282 | A2 | 20010313 | JP 1999-236149 | 19990823 |
| JP 3563643 | B2 | 20040908 | | |
| PRIORITY APPLN. INFO.: | | | JP 1999-236149 | 19990823 |
| OTHER SOURCE(S): | | | CASREACT 134:222712; MARPAT 134:222712 | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Condensed (acylamino)imidazoline compds. I (R3 = acyl), useful as intermediates for epinastine, are prepared by intramol. cyclization of II (R3 = same as in I) or III (R3 = same as in I). III may be prepared by treating 6,11-dihydro-5H-dibenzo[b,e]azepine-6-methanamine with R3NCS (R3 = same as in III) in organic solvents. II may be prepared by cyclizing 2-HOCH2C6H4NHCHPhCH2NHCSNHR3 (R3 = same as in II) (IV). IV may be prepared by treating 2-[(2-2-amino-1-phenylethyl)amino]benzenemethanol with R3NCS (R3 = acyl) in organic solvents. Preparation of epinastine from PhCH(OH)CH2NH2 with 7 steps was shown.

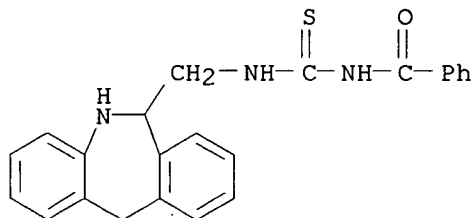
IT 329038-65-5P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of antiallergic epinastine and imidazoline compds. as their intermediates)

RN 329038-65-5 CAPLUS

CN Benzamide, N-[[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]amino]thioxomethyl]- (9CI) (CA INDEX NAME)



IT 41218-84-2

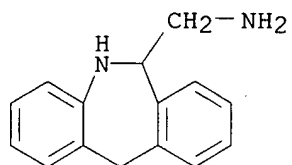
RL: RCT (Reactant); RACT (Reactant or reagent)

10/510,008

(preparation of antiallergic epinastine and imidazoline compds. as their intermediates)

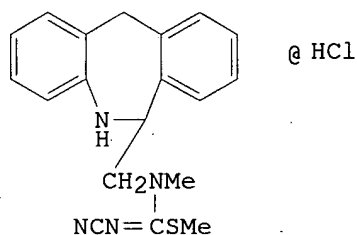
RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



46 ANSWER 17 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:604883 CAPLUS
 DOCUMENT NUMBER: 117:204883
 TITLE: 6-[N,S-dimethyl-N'-cyanothioureidomethyl]-6,11-dihydro-5H-dibenzo[b,e]azepine hydrochloride (Fran 12): a histamine and 5-hydroxytryptamine antagonist with pressor properties
 AUTHOR(S): Law, S. C.; Guyett, F. J.; King, R. G.; Boura, A. L. A.; Jackson, W. R.; Hodgson, W. C.
 CORPORATE SOURCE: Dep. Pharmacol., Monash Univ., Clayton, 3168, Australia
 SOURCE: Archives Internationales de Pharmacodynamie et de Therapie (1992), 317, 67-80
 CODEN: AIPTAK; ISSN: 0003-9780
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI.



AB The authors have synthesized and examined some of the pharmacol. properties of Fran 12 (I), a derivative of 6-methylaminomethyl-6,11-dihydro-5H-dibenz[b,e]azepine. In the guinea-pig isolated ileum, Fran 12 (10⁻⁷-10⁻⁵ M) caused parallel rightward shifts of the concentration-response curves to histamine. A Schild plot gave a PA₂ of 7.48, with a slope not significantly different from -1.0. In the rat stomach fundus strip and in endothelium-denuded aortic rings, Fran 12 inhibited contractile responses to 5-hydroxytryptamine in a non-competitive manner. In both chloralose-anesthetized and pithed rats, it inhibited pressor responses to 5-hydroxytryptamine. It had no effect on depressor responses to 5-hydroxytryptamine in anesthetized rats. In pithed rats, Fran 12 (0.25-2mg/kg, i.v.) produced dose-dependent increases in blood pressure. These were not inhibited by i.v. phentolamine, prazosin, yohimbine, propranolol, methysergide, pentolinium or atropine but were inhibited by verapamil. These results indicate that Fran 12 is a histamine and 5-hydroxytryptamine antagonist which also exerts pressor effects via a peripheral action. The pressor action does not appear to be mediated via effects on α ₁- or α ₂-adrenoceptors, muscarinic or nicotinic cholinergic receptors or 5-hydroxytryptamine receptors, although calcium channel activation may play a role.

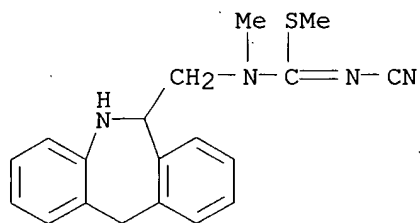
IT 144332-32-1P, Fran 12

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation and pharmacol. activity of)

RN 144332-32-1 CAPLUS

10/510,008

CN Carbamimidothioic acid, N'-cyano-N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N-methyl-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)



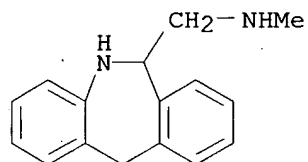
● HCl

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with di-Me cyanodithioiminocarbonate)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



10/510,008

L6X ANSWER 18 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:591840 CAPLUS

DOCUMENT NUMBER: 117:191840

TITLE: Process for preparation of 3-amino-9,13b-dihydro-1H-dibenz[c,f]imidazo[1,5-a]azepine hydrochloride

INVENTOR(S): Schneider, Heinrich

PATENT ASSIGNEE(S): Boehringer Ingelheim K.-G., Germany; Boehringer Ingelheim International G.m.b.H.

SOURCE: Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| EP 496306 | A1 | 19920729 | EP 1992-100798 | 19920118 |
| EP 496306 | B1 | 19950913 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE | | | | |
| DE 4102148 | A1 | 19920730 | DE 1991-4102148 | 19910125 |
| ES 2078559 | T3 | 19951216 | ES 1992-100798 | 19920118 |
| US 5312916 | A | 19940517 | US 1992-824415 | 19920123 |
| JP 04346988 | A2 | 19921202 | JP 1992-10415 | 19920124 |
| JP 3133448 | B2 | 20010205 | | |
| KR 196965 | B1 | 19990615 | KR 1992-978 | 19920124 |

PRIORITY APPLN. INFO.: DE 1991-4102148 A 19910125

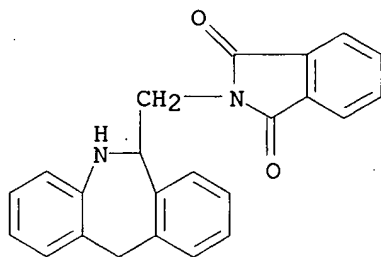
AB The title compound was prepared by a process comprising (a) hydrogenation of 6-phthalimidomethyl-6,11-dihydro-5H-dibenz[b,e]azepine; (b) hydrazinolysis and subsequent cyclization of the product with BrCN; and (c) treatment of the resultant base with HCl. The title compound is prepared in 61.6% overall yield.

IT 143878-20-OP

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, hydrazinolysis, and cyclization of)

RN 143878-20-0 CAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]- (9CI) (CA INDEX NAME)



10/510,008

16 ANSWER 19 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:632304 CAPLUS
DOCUMENT NUMBER: 115:232304
TITLE: Preparation of mianserin and analogs
INVENTOR(S): Haider, Akhtar; Bollinger, Heinrich; Fischer, Alan
PATENT ASSIGNEE(S): Societe Chimique de Vionnaz S. A. (SOCHINAZ), Switz.
SOURCE: Fr. Demande, 18 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| FR 2647114 | A1 | 19901123 | FR 1990-3115 | 19900312 |
| CH 678623 | A | 19911015 | CH 1989-1835 | 19890517 |
| PRIORITY APPLN. INFO.: | | | CH 1989-1835 | A 19890517 |

OTHER SOURCE(S): MARPAT 115:232304

GI For diagram(s), see printed CA Issue.

AB The title compds. [I; R1,R2 = H, halo, OH, alkyl, alkoxy, CF3; R3 = H, (ar)alkyl; p, q = 1,2] were prepared Thus, PhCHClCONHMe (preparation given) was

condensed with 2-(H2N)C6H4CH2OH and the product cyclized to give dibenzazepine II (R = CONHMe) which was reduced to II (R = CH2NHMe). The latter was cyclocondensed with BrCH2CH2Br to give mianserin.

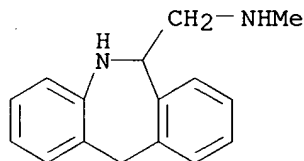
IT 21535-45-5P 133806-67-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, in preparation of mianserin)

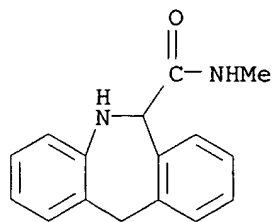
RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



RN 133806-67-4 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-carboxamide, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



10/510,008

16 . ANSWER 20 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1990:417487 CAPLUS

DOCUMENT NUMBER: 113:17487

TITLE: New tetracyclic guanidine derivatives with
H1-antihistaminic properties. Chemistry of epinastine

AUTHOR(S): Walther, G.; Daniel, H.; Bechtel, W. D.; Brandt, K.

CORPORATE SOURCE: Dep. Med. Chem., Boehringer Ingelheim KG,

Ingelheim/Rhein, D-6507, Germany

SOURCE: Arzneimittel-Forschung (1990), 40(4), 440-6

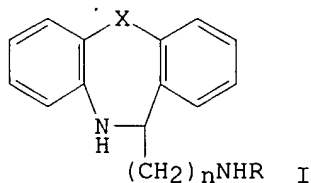
CODEN: ARZNAD; ISSN: 0004-4172

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:17487

GI



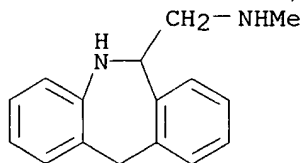
AB A series of new tetracyclic guanidines (I, X = O, S, CH₂; R = NH₂, NHMe, morpholine, etc.; n = 1) were synthesized by various methods. Specific binding of I to histamine-1 and histamine-2 receptors was determined. Epinastine, I (X = CH₂; R = NH₂; n = 1) combines high selectivity with high affinity for the H₁ receptor and was selected from I studied for further pharmacol. and clin. investigations. Exptl. determined physicochem. parameters (pK_a-value, partition coefficient) and the hydrogen-bonding ability of epinastine are indications that this compound will not easily cross the blood-brain barrier. This explains the absence of CNS side-effects of epinastine in pharmacol. and clin. studies.

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



IT 127785-96-0P 127786-00-9P 127786-01-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and cyclization of)

10/510,008

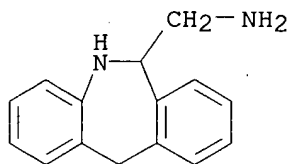
RN 127785-96-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2

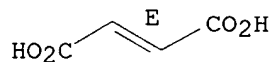


CM 2

CRN 110-17-8

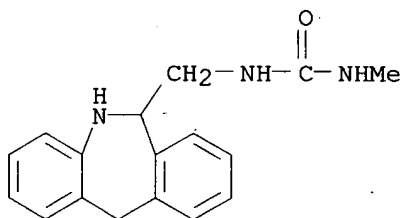
CMF C4 H4 O4

Double bond geometry as shown.



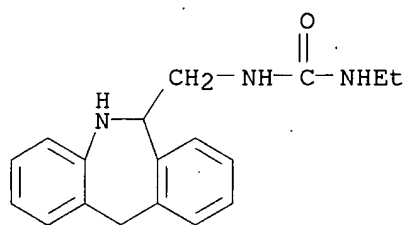
RN 127786-00-9 CAPLUS

CN Urea, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N'-methyl- (9CI)
(CA INDEX NAME)



RN 127786-01-0 CAPLUS

CN Urea, N-[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]-N'-ethyl- (9CI)
(CA INDEX NAME)



ANSWER 21 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1985:45941 CAPLUS

DOCUMENT NUMBER: 102:45941

TITLE: Tetracyclic compounds

INVENTOR(S): Connell, Anthony Christopher

PATENT ASSIGNEE(S): Beecham Group PLC, UK

SOURCE: PCT Int. Appl., 73 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

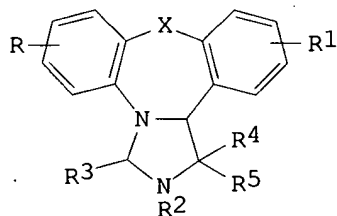
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

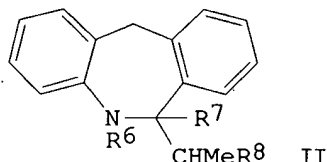
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------|------|----------|-----------------|------------|
| WO 8402704 | A1 | 19840719 | WO 1983-GB353 | 19831229 |
| WO 8402704 | A3 | 19840802 | | |
| W: AU, GB, JP, US | | | | |
| RW: BE, CH, DE, FR, GB, NL, SE | | | | |
| AU 8424163 | A1 | 19840802 | AU 1984-24163 | 19831229 |
| EP 130202 | A1 | 19850109 | EP 1984-900292 | 19831229 |
| R: BE, CH, DE, FR, GB, LI, NL, SE | | | | |
| JP 60500176 | T2 | 19850207 | JP 1984-500471 | 19831229 |
| PRIORITY APPLN. INFO.: | | | GB 1982-36881 | A 19821230 |
| | | | WO 1983-GB353 | A 19831229 |

OTHER SOURCE(S): MARPAT 102:45941

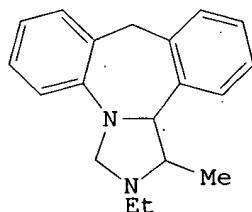
GI



I



II



III

AB Antidepressant and anxiolytic dibenzimidazoheterocycles I [R, R1 = H, OH, halo, CF3, alkyl, alkoxy; R2 = alkenyl, alkynyl, cycloalkyl, cycloalkenyl, (un)substituted alkyl; R3-R5 = H, alkyl; X = CH2, O, S, alkylimino] were prepared. Thus 2-PhCH2C6H4NH2 was treated with MeCHBrCOCl to give 2-PhCH2C6H4NHCOCBrMe, which cyclocondensed to form dibenzazepine II (R6R7 = bond, R8 = Br). Amination of the last, followed by reduction using LiAlH4 at -78°, gave 1 diastereomer of II (R6 = R7 = H; R8 = NHet), which cyclocondensed with H2CO to give dibenzimidazazepine III. III had an ED50 of 1.6 mg/kg orally for inhibition of 5-methoxy-N,N-dimethyltryptamine-induced motions in mice.

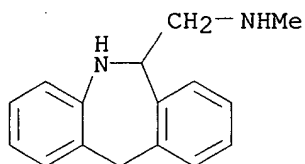
10/510,008

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with acetaldehyde, dibenzimidazoazepine by)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



IT 94018-72-1P 94019-10-0P 94019-11-1P

94019-12-2P 94019-13-3P 94019-20-2P

94019-21-3P 94019-22-4P 94019-23-5P

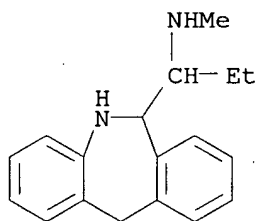
94036-80-3P 94727-55-6P 94727-56-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(preparation and cyclocondensation of, with formaldehyde,
dibenzimidazoazepine by)

RN 94018-72-1 CAPLUS

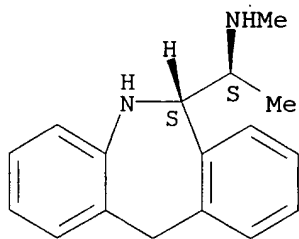
CN 5H-Dibenz[b,e]azepine-6-methanamine, α -ethyl-6,11-dihydro-N-methyl-
(9CI) (CA INDEX NAME)



RN 94019-10-0 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-,
(R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 94019-11-1 CAPLUS

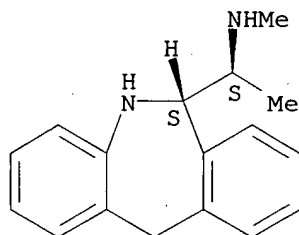
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-,
(α R,6R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

10/510,008

CM 1

CRN 94019-10-0
CMF C17 H20 N2

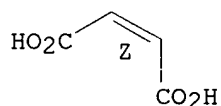
Relative stereochemistry.



CM 2

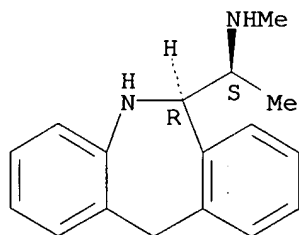
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-12-2 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-,
(R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



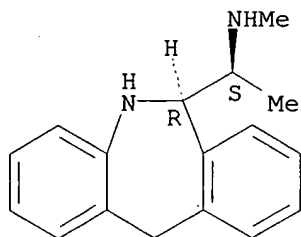
RN 94019-13-3 CAPLUS
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N, α -dimethyl-,
(α R,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-12-2
CMF C17 H20 N2

Relative stereochemistry.

10/510,008

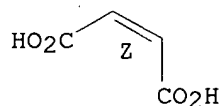


CM 2

CRN 110-16-7

CMF C4 H4 O4

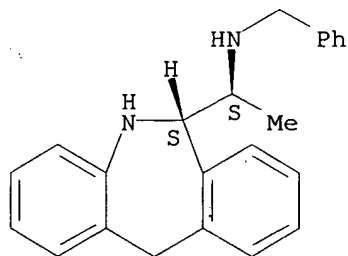
Double bond geometry as shown.



RN 94019-20-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-(phenylmethyl)-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 94019-21-3 CAPLUS

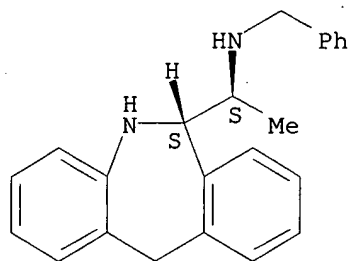
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-(phenylmethyl)-, (α R,6R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-20-2

CMF C23 H24 N2

Relative stereochemistry.

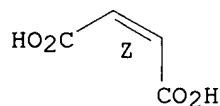


CM 2

CRN 110-16-7

CMF C4 H4 O4

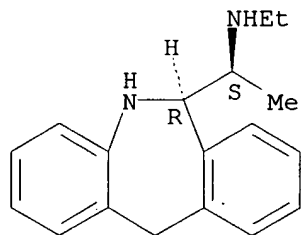
Double bond geometry as shown.



RN 94019-22-4 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-,
(R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 94019-23-5 CAPLUS

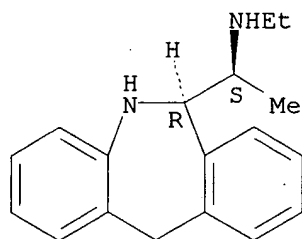
CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-,
(α R,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-22-4

CMF C18 H22 N2

Relative stereochemistry.

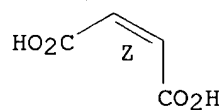


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



RN 94036-80-3 CAPLUS

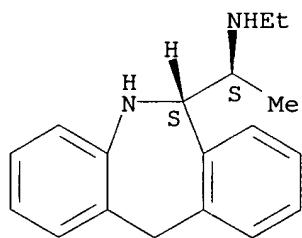
CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- α -methyl-,
(α R,6R)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94018-73-2

CMF C18 H22 N2

Relative stereochemistry.



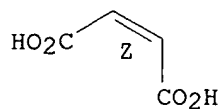
CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.

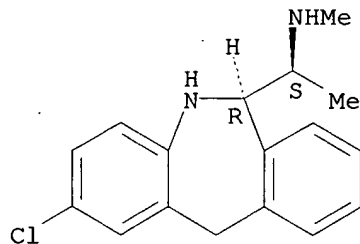
10/510,008



RN 94727-55-6 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N, α -dimethyl-, (R*,S*)- (9CI) (CA INDEX NAME)

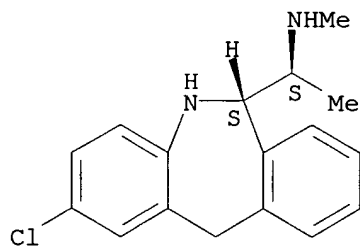
Relative stereochemistry.



RN 94727-56-7 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N, α -dimethyl-, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

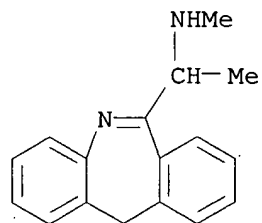


IT 94019-08-6P 94019-09-7P 94019-16-6P
94019-17-7P 94019-18-8P 94019-19-9P
94727-54-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(preparation and reduction of)

RN 94019-08-6 CAPLUS

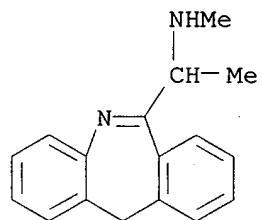
CN 11H-Dibenz[b,e]azepine-6-methanamine, N, α -dimethyl- (9CI) (CA INDEX NAME)



RN 94019-09-7 CAPLUS
 CN 11H-Dibenz[b,e]azepine-6-methanamine, N,α-dimethyl-,
 (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

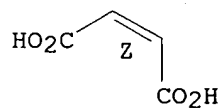
CRN 94019-08-6
 CMF C17 H18 N2



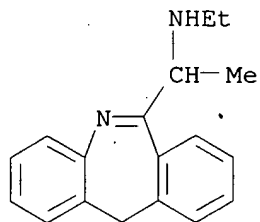
CM 2

CRN 110-16-7
 CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-16-6 CAPLUS
 CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-α-methyl- (9CI) (CA
 INDEX NAME)



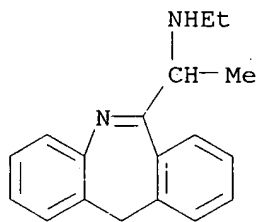
RN 94019-17-7 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-α-methyl-,
(2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-16-6

CMF C18 H20 N2

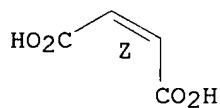


CM 2

CRN 110-16-7

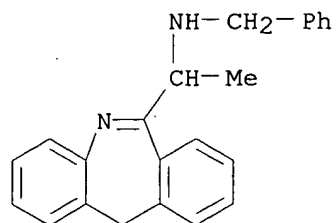
CMF C4 H4 O4

Double bond geometry as shown.



RN 94019-18-8 CAPLUS

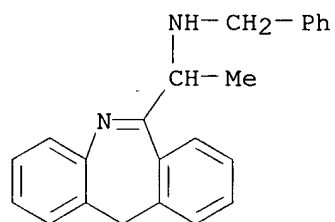
CN 11H-Dibenz[b,e]azepine-6-methanamine, α-methyl-N-(phenylmethyl)-
(9CI) (CA INDEX NAME)



RN 94019-19-9 CAPLUS
 CN 11H-Dibenz[b,e]azepine-6-methanamine, α -methyl-N-(phenylmethyl)-,
 (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

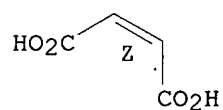
CRN 94019-18-8
 CMF C23 H22 N2



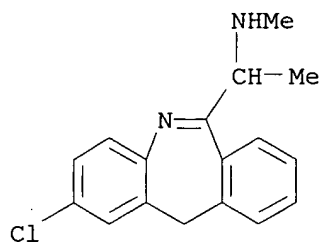
CM 2

CRN 110-16-7
 CMF C4 H4 O4

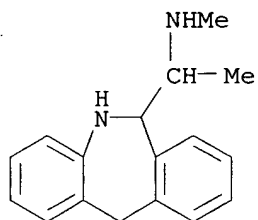
Double bond geometry as shown.



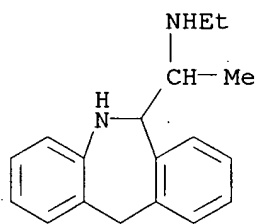
RN 94727-54-5 CAPLUS
 CN 11H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-N, α -dimethyl- (9CI)
 (CA INDEX NAME)



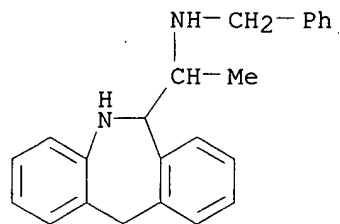
IT 94018-66-3P 94018-67-4P 94018-68-5P
 94018-69-6P 94018-73-2P 94019-24-6P
 94019-25-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 94018-66-3 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,α-dimethyl-
 (9CI) (CA INDEX NAME)



RN 94018-67-4 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro-α-methyl-
 (9CI) (CA INDEX NAME)

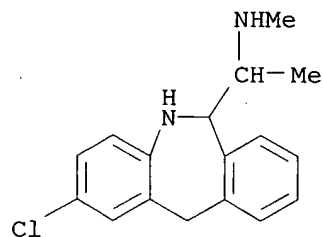


RN 94018-68-5 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-α-methyl-N-
 (phenylmethyl)- (9CI) (CA INDEX NAME)



RN 94018-69-6 CAPLUS

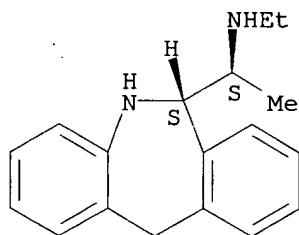
CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N,α-dimethyl- (9CI) (CA INDEX NAME)



RN 94018-73-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro-α-methyl-, (R*,R*)- (9CI) (CA INDEX NAME)

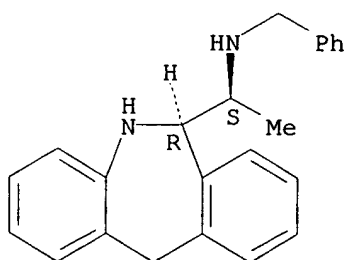
Relative stereochemistry.



RN 94019-24-6 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-α-methyl-N-(phenylmethyl)-, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



10/510,008

RN 94019-25-7 CAPLUS

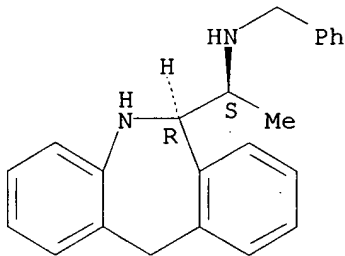
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- α -methyl-N-(phenylmethyl)-, (α R,6S)-rel-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 94019-24-6

CMF C23 H24 N2

Relative stereochemistry.

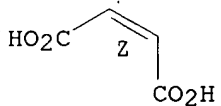


CM. 2

CRN 110-16-7

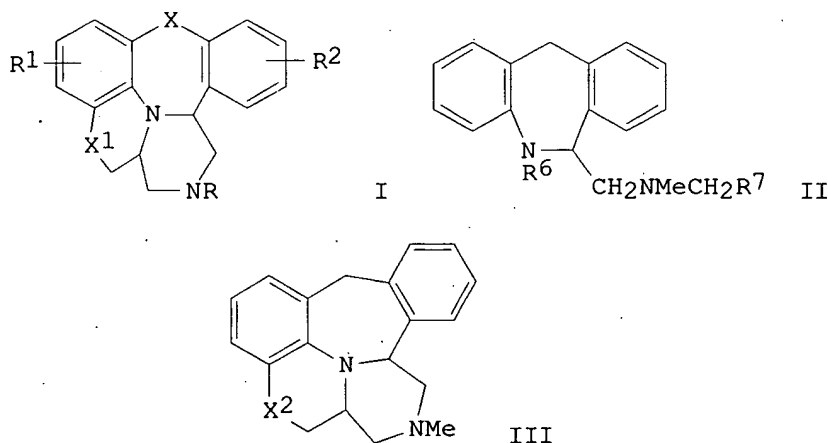
CMF C4 H4 O4

Double bond geometry as shown.



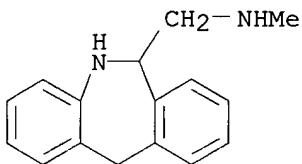
6 ANSWER 22 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1984:139160 CAPLUS
 DOCUMENT NUMBER: 100:139160
 TITLE: Pentacyclic compounds
 INVENTOR(S): Gardner, Derek Victor; White, Trevor John
 PATENT ASSIGNEE(S): Beecham Group PLC, UK
 SOURCE: Eur. Pat. Appl., 57 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|------|----------|-------------------|------------|
| EP 90552 | A2 | 19831005 | EP 1983-301475 | 19830317 |
| EP 90552 | A3 | 19840425 | | |
| R: BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| AU 8312849 | A1 | 19830929 | AU 1983-12849 | 19830325 |
| ZA 8302145 | A | 19840530 | ZA 1983-2145 | 19830325 |
| US 4469697 | A | 19840904 | US 1983-479016 | 19830325 |
| ES 521020 | A1 | 19841001 | ES 1983-521020 | 19830325 |
| JP 58189182 | A2 | 19831104 | JP 1983-52279 | 19830328 |
| PRIORITY APPLN. INFO.: | | | GB 1982-9087 | A 19820327 |
| | | | GB 1982-9298 | A 19820330 |
| | | | GB 1982-12154 | A 19820427 |
| OTHER SOURCE(S): | | | MARPAT 100:139160 | |
| GI | | | | |

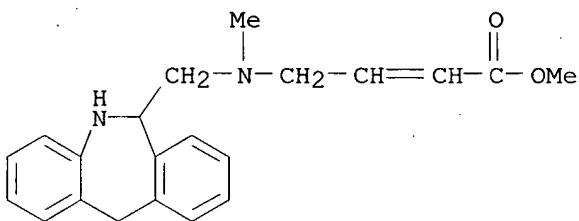


AB Pentacyclic hydroxytryptamine antagonists I [R = H, cycloalkyl, cycloalkenyl, (un)substituted alkyl; R1, R2 = H, halogen, OH, alkyl, alkoxy, F3C; X = CH2, O, S, NR3; R3 = H, alkyl; X1 = NR4CH2, NR4CO, CH2NR5, CONR5; R4, R5 = H, alkyl, acyl] were prepared. Thus, dibenzoazepine II (R6 = H, R7 = CH:CHCO2Me) was cyclized to give pyrazino[1,2-f]morphanthridine II (R6R7 = CHCH2CO2Me). The last was demethylated and cyclized to give diazabenzo[g,h]pleiadenone III (X2 = CO), which was treated with NH2OH to give III (X2 = C:NOH). Beckmann rearrangement of III (X2 = C:NOH) gave III (X2 = NHCO). III (X2 = NHCO) inhibited

5-methoxy-N,N-dimethyltryptamine with an ED50 of 3.0 mg/kg orally in mice.
 IT 21535-45-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (alkylation of)
 RN 21535-45-5 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA
 INDEX NAME)



IT 83581-21-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and cyclization of, pyrazinomorphanthridine by)
 RN 83581-21-9 CAPLUS
 CN 2-Butenoic acid, 4-[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]-, methyl ester (9CI) (CA INDEX NAME)



10/510,008

LA ANSWER 23 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:34501 CAPLUS

DOCUMENT NUMBER: 100:34501

TITLE: Syntheses and NMR analyses of deuterated mianserin

AUTHOR(S): Kaspersen, Frans M.; Favier, J. S.; Wagenaars, Gerard; Wallaart, Jan; Funke, Carel W.

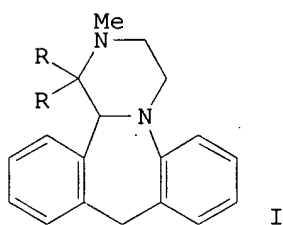
CORPORATE SOURCE: Sci. Dev. Group, Organon Int. B.V., Oss, 5340 BH, Neth.

SOURCE: Recueil: Journal of the Royal Netherlands Chemical Society (1983), 102(10), 457-60
CODEN: RJRSDK; ISSN: 0165-0513

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



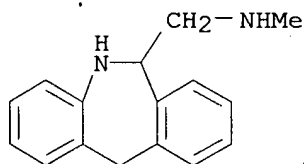
AB Eleven deuterated analogs of mianserin (I, R = H) were prepared and analyzed by ¹H and ¹³C NMR to elucidate the ¹H-NMR spectrum of mianserin. Thus, I (R₂ = O) was reduced with LiAlD₄ to give I (R = D).

IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with chloroacetic anhydride)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

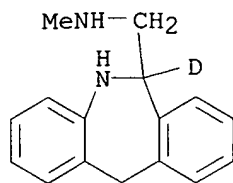


IT 88423-54-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and conversion to labeled mianserin)

RN 88423-54-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-6-d-N-methyl- (9CI) (CA INDEX NAME)

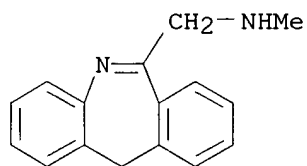


IT 46880-91-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)

RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)



RL: RCT (Reactant); RACT (Reactant or reagent)
(redn. of, with sodium borohydride)

10/510,008

10/510,008
ANSWER 24 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:198233 CAPLUS

DOCUMENT NUMBER: 98:198233

TITLE: Heterocyclic compounds and their use

INVENTOR(S): Walther, Gerhard; Schneider, Claus; Weber, Karl Heinz;
Fuegner, Armin

PATENT ASSIGNEE(S): Boehringer Ingelheim K.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 24 pp.

CODEN: GWXXBX

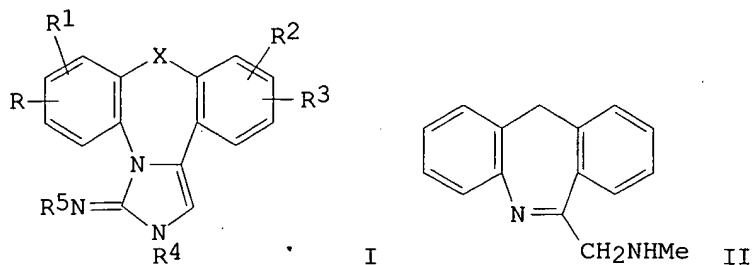
DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|----------|-----------|-----------------|------------|
| DE 3134672 | A1 | 19830317 | DE 1981-3134672 | 19810902 |
| US 4503060 | A | 19850305 | US 1982-410006 | 19820820 |
| JP 58046089 | A2 | 19830317 | JP 1982-149040 | 19820827 |
| JP 03080795 | B4 | 19911226 | | |
| EP 73506 | A1 | 19830309 | EP 1982-107929 | 19820828 |
| EP 73506 | B1 | 19860219 | | |
| R: AT, BE, CH, DE, FR, IT, LI, LU, NL, SE | | | | |
| AT 18049 | E | 19860315 | AT 1982-107929 | 19820828 |
| DD 204255 | A5 | 19831123 | DD 1982-242882 | 19820830 |
| CA 1169858 | A1 | 19840626 | CA 1982-410412 | 19820830 |
| FI 8203001 | A | 19830303 | FI 1982-3001 | 19820831 |
| FI 76089 | B | 19880531 | | |
| FI 76089 | C | 19880909 | | |
| SU 1155158 | A3 | 19850507 | SU 1982-3484887 | 19820831 |
| PL 135812 | B1 | 19851231 | PL 1982-238090 | 19820831 |
| DK 8203911 | A | 19830303 | DK 1982-3911 | 19820901 |
| DK 160047 | B | 19910121 | | |
| DK 160047 | C | 19910610 | | |
| NO 8202948 | A | 19830303 | NO 1982-2948 | 19820901 |
| NO 160445 | B | 19890109 | | |
| NO 160445 | C | 19890419 | | |
| GB 2108112 | A1 | 19830511 | GB 1982-24915 | 19820901 |
| GB 2108112 | B2 | 19850109 | | |
| ES 515413 | A1 | 19830816 | ES 1982-515413 | 19820901 |
| HU 27656 | O | 19831028 | HU 1982-2808 | 19820901 |
| HU 185110 | B | 19841228 | | |
| AU 8287926 | A1 | 19840308 | AU 1982-87926 | 19820901 |
| AU 550340 | B2 | 19860320 | | |
| ZA 8206380 | A | 19840530 | ZA 1982-6380 | 19820901 |
| CS 236680 | B2 | 19850515 | CS 1982-6355 | 19820901 |
| IL 66694 | A1 | 19850630 | IL 1982-66694 | 19820901 |
| ES 521604 | A1 | 19840516 | ES 1983-521604 | 19830419 |
| ES 521605 | A1 | 19840516 | ES 1983-521605 | 19830419 |
| PRIORITY APPLN. INFO.: | | | DE 1981-3134672 | A 19810902 |
| | | | EP 1982-107929 | A 19820828 |
| OTHER SOURCE(S): | CASREACT | 98:198233 | | |
| GI | | | | |



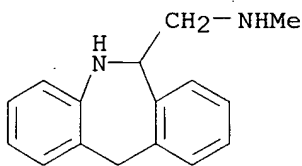
AB The title compds. I [R-R3 = H, halo, alkyl, alkoxy; R4 = alkyl, alkenyl, (un)substituted Ph, aralkyl; R5 = H, alkyl, alkenyl; X = CH2, O, S] and their 1,13b-dihydro derivs. were prepared Thus, II was cyclocondensed with BrCN to give 77% I.HBr (R-R3 = R5 = H, R4 = Me; X = CH2) (III). III had ED50 of 1.1 mg/kg orally in rats in the passive cutaneous anaphylaxis test.

IT 21535-45-5 46880-91-5 85777-36-2
85777-37-3 85777-38-4 85777-39-5
85777-40-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with cyanogen bromide)

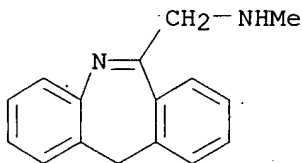
RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



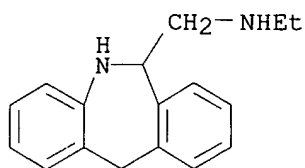
RN 46880-91-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-methyl- (9CI) (CA INDEX NAME)



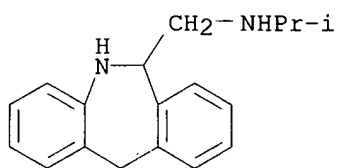
RN 85777-36-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, N-ethyl-6,11-dihydro- (9CI) (CA INDEX NAME)



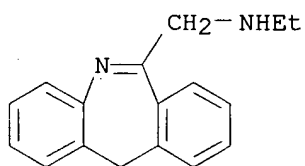
RN 85777-37-3 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-(1-methylethyl)- (9CI)
(CA INDEX NAME)



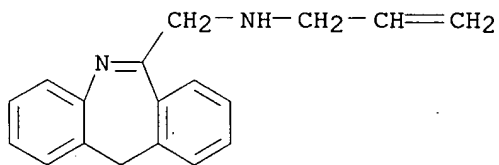
RN 85777-38-4 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-ethyl- (9CI) (CA INDEX NAME)



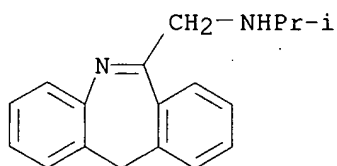
RN 85777-39-5 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-2-propenyl- (9CI) (CA INDEX NAME)



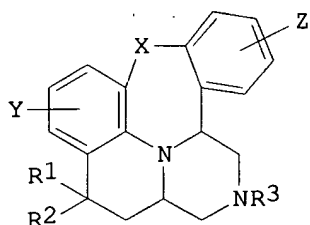
RN 85777-40-8 CAPLUS

CN 11H-Dibenz[b,e]azepine-6-methanamine, N-(1-methylethyl)- (9CI) (CA INDEX NAME)

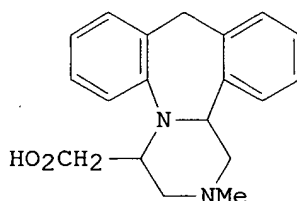


10 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1982:598228 CAPLUS
 DOCUMENT NUMBER: 97:198228
 TITLE: Pentacyclic compounds and their use
 INVENTOR(S): Gardner, Derek Victor
 PATENT ASSIGNEE(S): Beecham Group PLC, UK
 SOURCE: Eur. Pat. Appl., 54 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----------------------------------|------|----------|------------------|------------|
| EP 55546 | A1 | 19820707 | EP 1981-305861 | 19811214 |
| EP 55546 | B1 | 19840801 | | |
| R: BE, CH, DE, FR, IT, LU, NL, SE | | | | |
| GB 2091247 | A | 19820728 | GB 1981-37604 | 19811214 |
| GB 2091247 | B2 | 19840718 | | |
| US 4442098 | A | 19840410 | US 1981-332347 | 19811218 |
| ZA 8108804 | A | 19821124 | ZA 1981-8804 | 19811221 |
| JP 57134483 | A2 | 19820819 | JP 1981-215973 | 19811230 |
| ES 508465 | A1 | 19831116 | ES 1981-508465 | 19811230 |
| CA 1167439 | A1 | 19840515 | CA 1981-393370 | 19811230 |
| AU 8179131 | A1 | 19820708 | AU 1981-79131 | 19811231 |
| AU 551160 | B2 | 19860417 | | |
| PRIORITY APPLN. INFO.: | | | GB 1980-41558 | A 19801231 |
| OTHER SOURCE(S): | | | MARPAT 97:198228 | |
| GI | | | | |



I



II

AB Condensed pentacyclic compds. I [R1 = H, alkyl, (un)substituted Ph, phenylalkyl; R2 = H, OH, alkoxy, phenylalkoxy, acyloxy, NR4R5 (R4 = H, R5 = OH, alkoxy, R4R5 = oxapolyethylene), R1R2 = O; R3 = H, alkyl; X = CH2, O, S, NR (R = H, alkyl); Y, Z = H, alkyl, alkoxy, halo, CF3], useful as antidepressants or mild tranquilizers were prepared. Thus, 6-methylaminomethyl-5,6-dihydromorphanthridine was treated with BrCH2CH:CHCO2Me to give 65% Me 4-(methylaminomethyl)-5,6-dihydro-6-morphanthridinyl)-2-butenate which was cyclized and saponified to give II. Subsequent intramol. cyclocondensation gave 45% I (R1R2 = O, R3 = Me, X = CH2, Y = Z = H) which was reduced by LiAlH4 to give I (R1 = OH, R2 = H, X, Y, Z as above) followed by dehydration and hydrogenation to give I (R1R2 = H2, R3, X, Y, Z as above).

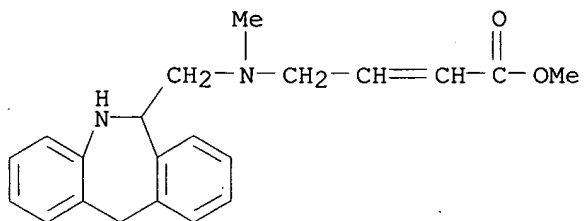
IT 83581-21-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and intermol. cycloaddn. of)

10/510,008

RN 83581-21-9 CAPLUS

CN 2-Butenoic acid, 4-[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]-, methyl ester (9CI) (CA INDEX NAME)



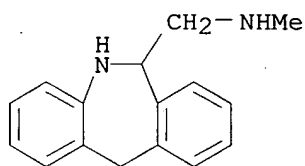
IT 21535-45-5

RL: PROC (Process)

(substitution of, by Me bromocrotonate)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



10/510,008

10 ANSWER 26 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1982:20122 CAPLUS

DOCUMENT NUMBER: 96:20122

TITLE: Piperazine derivatives

INVENTOR(S): Torres Esteban, Jose Maria; De Mas Rocabayera, Teodoro; Aguila Salomo, Santiago; Blade Font, Arturo

PATENT ASSIGNEE(S): Laboratorios Prem S. A., Spain

SOURCE: Span., 11 pp.

CODEN: SPXXAD

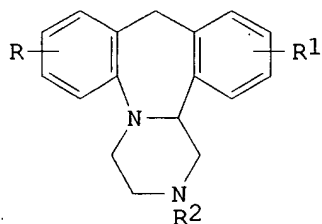
DOCUMENT TYPE: Patent

LANGUAGE: Spanish

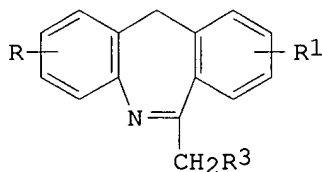
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------------|------|----------|-----------------|-------------|
| ES 491364 | A1 | 19810416 | ES 1980-491364 | 19800509 |
| PRIORITY APPLN. INFO.: GI | | | ES 1980-491364 | A1 19800509 |



I



II

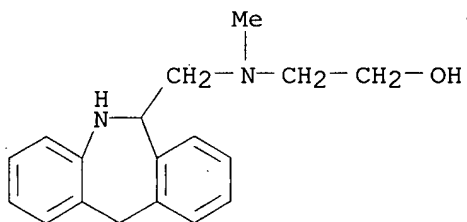
AB Pyrazino[1,2-f]morphanthridines I (R, R1 = H, halo, C1-4 alkyl, C1-3 alkoxy; R2 = C1-5 alkyl) and their salts, useful as serotonin antagonists (no data), were prepared by aminating 6-(chloromethyl)morphanthridines (II; R3 = Cl) with R2NHCH2CH2OH, reduction of the N(5)-C(6) double bond in II (R3 = HOCH2CH2NR2), followed by cyclization. Thus, stirring II (R = R1 = H, R3 = Cl) with MeNHCH2CH2OH in CH2Cl2 2 h gave II (R3 = HOCH2CH2NMe) which was reduced by NaBH4 in CH2Cl2-EtOH, and the dihydro derivative cyclized by treatment with Ph3P, Et3N, and CCl4 in MeCN to give I (R = R1 = H, R2 = Me), isolated as the HCl salt.

IT 79925-23-8P 79925-26-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclization of)

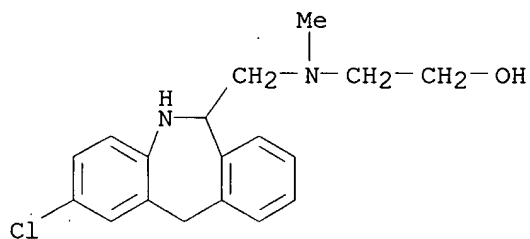
RN 79925-23-8 CAPLUS

CN Ethanol, 2-[[[(6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]-(9CI) (CA INDEX NAME)



RN 79925-26-1 CAPLUS

CN Ethanol, 2-[[2-(2-chloro-6,11-dihydro-5H-dibenz[b,e]azepin-6-yl)methyl]methylamino]- (9CI) (CA INDEX NAME)

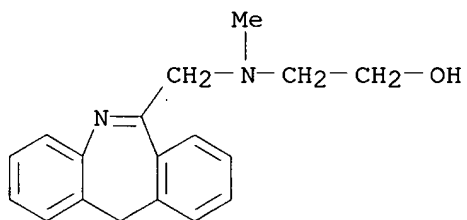


IT 79925-22-7P 79925-25-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and reduction of)

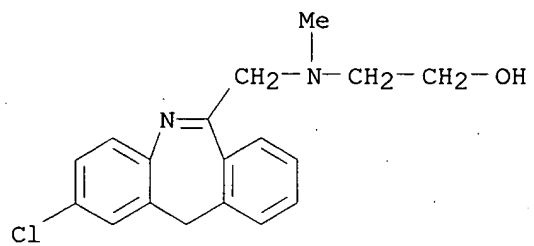
RN 79925-22-7 CAPLUS

CN Ethanol, 2-[(11H-dibenz[b,e]azepin-6-yl-methyl)methylamino]- (9CI) (CA INDEX NAME)



RN 79925-25-0 CAPLUS

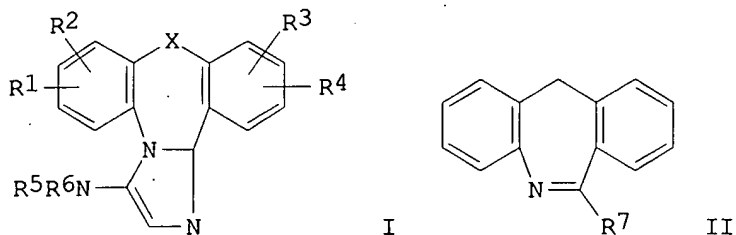
CN Ethanol, 2-[[2-(2-chloro-11H-dibenz[b,e]azepin-6-yl)methyl]methylamino]- (9CI) (CA INDEX NAME)



10/510,008

ANSWER 27 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982:6777 CAPLUS
DOCUMENT NUMBER: 96:6777
TITLE: Dibenzimidazoazepines and their use
INVENTOR(S): Walther, Gerhard; Schneider, Claus S.; Weber, Karl
Heinz; Fuegner, Armin
PATENT ASSIGNEE(S): Boehringer, C. H., Sohn, Fed. Rep. Ger.
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------------------------|--------|----------|-----------------|------------|
| DE 3008944 | A1 | 19810924 | DE 1980-3008944 | 19800308 |
| US 4313931 | A | 19820202 | US 1981-236818 | 19810223 |
| NO 8100762 | A | 19810909 | NO 1981-762 | 19810305 |
| NO 162073 | B | 19890724 | | |
| NO 162073 | C | 19891101 | | |
| EP 35749 | A1 | 19810916 | EP 1981-101564 | 19810305 |
| EP 35749 | B1 | 19840606 | | |
| R: AT, BE, CH, DE, FR, IT, LU, NL, SE | | | | |
| JP 56139484 | A2 | 19811030 | JP 1981-31903 | 19810305 |
| JP 03066311 | B4 | 19911016 | | |
| DD 156708 | C | 19820915 | DD 1981-228087 | 19810305 |
| SU 1015829 | A3 | 19830430 | SU 1981-3252241 | 19810305 |
| AT 7788 | E | 19840615 | AT 1981-101564 | 19810305 |
| DK 8101035 | A | 19810909 | DK 1981-1035 | 19810306 |
| DK 154299 | B | 19881031 | | |
| DK 154299 | C | 19890328 | | |
| FI 8100712 | A | 19810909 | FI 1981-712 | 19810306 |
| FI 70898 | B | 19860718 | | |
| FI 70898 | C | 19861027 | | |
| GB 2071095 | A | 19810916 | GB 1981-7114 | 19810306 |
| GB 2071095 | B2 | 19830602 | | |
| AU 8168158 | A1 | 19810917 | AU 1981-68158 | 19810306 |
| AU 535359 | B2 | 19840315 | | |
| HU 22956 | O | 19820728 | HU 1981-572 | 19810306 |
| HU 180628 | B | 19830328 | | |
| ZA 8101500 | A | 19821124 | ZA 1981-1500 | 19810306 |
| ES 500150 | A1 | 19821201 | ES 1981-500150 | 19810306 |
| CS 221288 | P | 19830429 | CS 1981-1644 | 19810306 |
| CA 1150253 | A1 | 19830719 | CA 1981-372485 | 19810306 |
| IL 62309 | A1 | 19840629 | IL 1981-62309 | 19810306 |
| PL 132141 | B1 | 19850228 | PL 1981-230036 | 19810306 |
| RO 81652 | P | 19830429 | RO 1981-103617 | 19810307 |
| PRIORITY APPLN. INFO.: | | | DE 1980-3008944 | A 19800308 |
| | | | EP 1981-101564 | A 19810305 |
| OTHER SOURCE(S): | MARPAT | 96:6777 | | |
| GI | | | | |



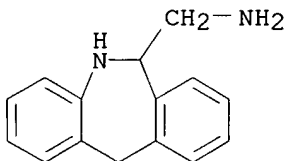
AB Dibenzimidazoazepines I (R1-R4 = H, halo, C1-6 alkyl or alkoxy; R5, R6 = H, C1-6 alkyl, C3-6 alkenyl; R5R6N = 1-pyrrolidinyl, piperidino, morpholino; X = O, S, CH2) and their acid addition salts, useful in treating allergies, as antihistamines, blood platelet aggregation inhibitors, and anti-serotonin agents, were prepared Successive cyanation of chlorodibenzazepine II (R7 = Cl) with NaCN (73.2% yield), AlH3 reduction of cyanodibenzazepine II (R7 = cyano) (72.3%), and cyclization of (aminomethyl)dibenzazepine II (R7 = CH2NH2) gave dibenzimidazoazepine I.HBr (R1-R6 = H, X = CH2) (III). The ED50 for passive lung anaphylaxis in rats for III was 0.052 mg/kg i.v.

IT 41218-84-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide or carbon disulfide, or reaction with iso-Pr isocyanate)

RN 41218-84-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)

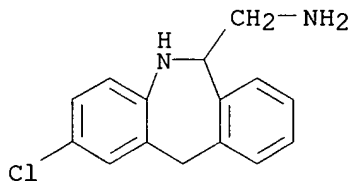


IT 80012-55-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide or dichloromethylenedimethylammonium chloride, dibenzimidazoazepine derivative by)

RN 80012-55-1 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro- (9CI) (CA INDEX NAME)



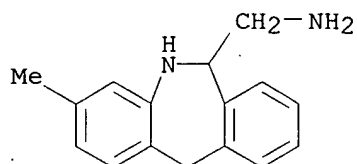
IT 80012-56-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with cyanogen bromide, dibenzimidazoazepine derivative by)

10/510,008

RN 80012-56-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-3-methyl- (9CI) (CA INDEX NAME)



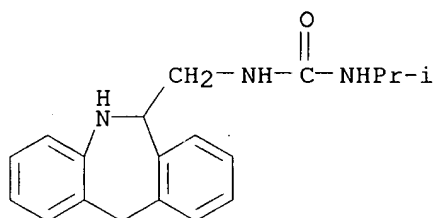
IT 80013-09-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and cyclization of, by benzimidazoazepine by)

RN 80013-09-8 CAPLUS

CN Urea, N-[(10,11-dihydro-5H-dibenz[b,e]azepin-11-yl)methyl]-N'-(1-methylethyl)- (9CI) (CA INDEX NAME)



IT 80012-79-9P 80012-80-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

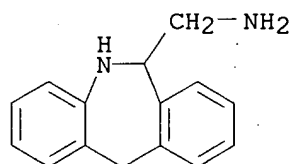
RN 80012-79-9 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-, (2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 41218-84-2

CMF C15 H16 N2



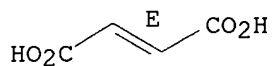
CM 2

CRN 110-17-8

CMF C4 H4 O4

10/510,008

Double bond geometry as shown.



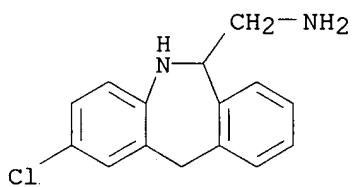
RN 80012-80-2 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-,
(2E)-2-butenedioate (9CI) (CA INDEX NAME)

CM 1

CRN 80012-55-1

CMF C15 H15 Cl N2

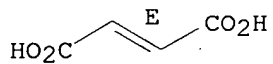


CM 2

CRN 110-17-8

CMF C4 H4 O4

Double bond geometry as shown.



ANSWER 28 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:532454 CAPLUS

DOCUMENT NUMBER: 93:132454

TITLE: Tetracyclic heterocycles as central nervous system (CNS) agents

AUTHOR(S): Moffett, Robert Bruce

CORPORATE SOURCE: Res. Lab., Upjohn Co., Kalamazoo, MI, 49001, USA

SOURCE: Journal of Heterocyclic Chemistry (1980), 17(2), 341-50

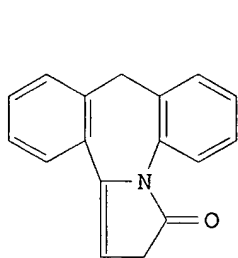
CODEN: JHTCAD; ISSN: 0022-152X

DOCUMENT TYPE: Journal

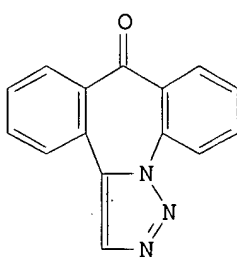
LANGUAGE: English

OTHER SOURCE(S): CASREACT 93:132454

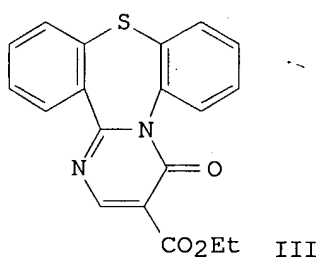
GI



I



II



III

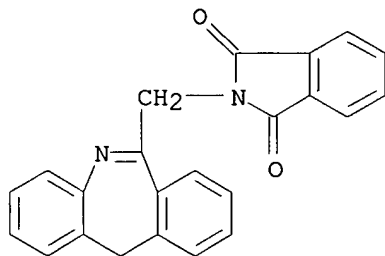
AB A number of new tri- and tetracyclic heterocycles, e.g. I, II, III, and open chain intermediates were prepared. Thus, N-(α -phenyl-o-tolyl)succinimide was cyclized with POCl₃ and polyphosphoric acid to give I. None of I showed central nervous system activity greater than that of known analogs.

IT 74860-00-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 74860-00-7 CAPLUS

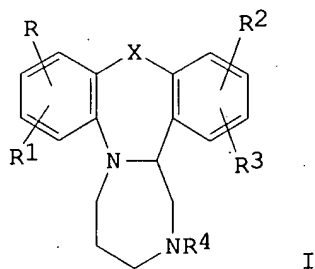
CN 1H-Isoindole-1,3(2H)-dione, 2-(11H-dibenz[b,e]azepin-6-ylmethyl)- (9CI)
(CA INDEX NAME)



10/510,008

16 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1978:509613 CAPLUS
DOCUMENT NUMBER: 89:109613
TITLE: 1,4-Diazepine derivatives
PATENT ASSIGNEE(S): AKZO N. V., Neth.
SOURCE: Neth. Appl., 17 pp.
CODEN: NAXXAN
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| NL 7610942 | A | 19780404 | NL 1976-10942 | 19761002 |
| ZA 7705472 | A | 19780726 | ZA 1977-5472 | 19770912 |
| AU 7728838 | A1 | 19790322 | AU 1977-28838 | 19770915 |
| AU 511572 | B2 | 19800828 | | |
| GB 1567997 | A | 19800521 | GB 1977-38887 | 19770919 |
| US 4224321 | A | 19800923 | US 1977-835972 | 19770923 |
| DK 7704242 | A | 19780403 | DK 1977-4242 | 19770926 |
| DK 142582 | B | 19801124 | | |
| DK 142582 | C | 19810727 | | |
| FI 7702872 | A | 19780403 | FI 1977-2872 | 19770929 |
| BE 859279 | A1 | 19780330 | BE 1977-181377 | 19770930 |
| SE 7710958 | A | 19780403 | SE 1977-10958 | 19770930 |
| DE 2744179 | A1 | 19780406 | DE 1977-2744179 | 19770930 |
| FR 2366292 | A1 | 19780428 | FR 1977-29483 | 19770930 |
| FR 2366292 | B1 | 19800411 | | |
| JP 53059697 | A2 | 19780529 | JP 1977-118534 | 19770930 |
| CA 1082183 | A1 | 19800722 | CA 1977-287866 | 19770930 |
| HU 19777 | O | 19810428 | HU 1977-A0 | 452 19770930 |
| HU 177404 | P | 19811028 | HU 1977-A0452 | 19770930 |
| ES 462838 | A1 | 19780601 | ES 1977-462838 | 19771001 |
| PRIORITY APPLN. INFO.: | | | NL 1976-10942 | A 19761002 |
| GI | | | | |



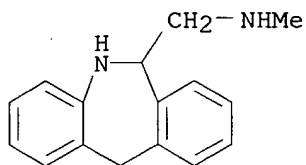
AB Antihistaminic and tranquilizing (no data) dibenzazepinodiazepines I (R-R3 = H, OH, alkyl, alkoxy, alkylthio, halogen, CF3; R4 = H, alkyl; X = CH2, O) were prepared. Thus, I (X = O, R-R3 = H, R4 = Me) (1.6 g) was obtained by B2H6 reduction of 3.8 g of its 3-oxo derivative
IT 21535-45-5

10/510,008

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dibromopropane)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA
INDEX NAME)



ANSWER 30 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1973:405339 CAPLUS
 DOCUMENT NUMBER: 79:5339
 TITLE: Imidazomorphanthridines, -phenanthridines, and dibenzimidazoazocines
 INVENTOR(S): Van der Burg, Willem Jacob
 PATENT ASSIGNEE(S): AKZO N.V.
 SOURCE: Ger. Offen., 22 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| DE 2248477 | A1 | 19730412 | DE 1972-2248477 | 19721003 |
| NL 7113679 | A | 19730409 | NL 1971-13679 | 19711005 |
| ZA 7206504 | A | 19730627 | ZA 1972-6504 | 19720922 |
| US 3850956 | A | 19741126 | US 1972-291188 | 19720922 |
| GB 1404642 | A | 19750903 | GB 1972-43975 | 19720922 |
| AU 7247138 | A1 | 19740404 | AU 1972-47138 | 19720927 |
| CA 1001620 | A1 | 19761214 | CA 1972-152649 | 19720927 |
| BE 789410 | A2 | 19730115 | BE 1972-122526 | 19720928 |
| FI 54123 | C | 19781010 | FI 1972-2675 | 19720928 |
| FR 2158206 | A1 | 19730615 | FR 1972-35139 | 19721004 |
| JP 48044300 | A2 | 19730626 | JP 1972-99726 | 19721004 |
| ES 407319 | A1 | 19760116 | ES 1972-407319 | 19721004 |
| CH 575418 | A | 19760514 | CH 1972-14508 | 19721004 |
| SE 397354 | B | 19771031 | SE 1972-12778 | 19721004 |
| DK 136818 | B | 19771128 | DK 1972-4907 | 19721004 |
| HU 164359 | P | 19740228 | HU 1972-A0344 | 19721005 |
| AT 323180 | B | 19750625 | AT 1972-8543 | 19721005 |
| PRIORITY APPLN. INFO.: | | | NL 1971-13679 | A 19711005 |

GI For diagram(s), see printed CA Issue.

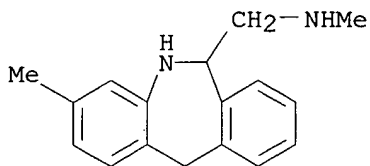
AB Fourteen title compds. [I; Q = CH₂, CHMe, (CH₂)₂, CH:CH, or a bond; R = H, Me, Pr, or CH₂Ph; R₁, R₄ = H or Me; R₂ = H, Cl, or Me; R₃ = H or OMe], useful as antihistaminic and antiserotonic agents, were prepared preferable by condensation of the amines II with CH₂Cl₂. Thus, Me₂SO and Et₃N were added to II (Q = CH₂, R = Me, R₁-R₄ = H) in CH₂Cl₂, and the mixture was refluxed 5 hr to give racemic I (Q = CH₂, R = Me, R₁-R₄ = H). This was resolved into its (+)- and (-)-isomers via salts with (-)- and (+)-dibenzoyltartaric acid, resp.

IT 41218-67-1 41218-74-0 41218-84-2
 41218-94-4 41508-70-7

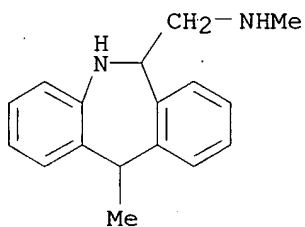
RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization with methylene chloride)

RN 41218-67-1 CAPLUS

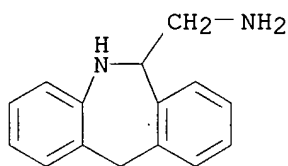
CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,3-dimethyl- (9CI) (CA INDEX NAME)



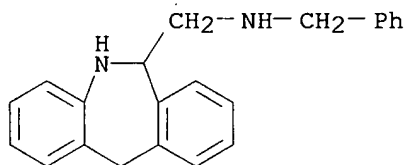
RN 41218-74-0 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N,11-dimethyl- (9CI)
 (CA INDEX NAME)



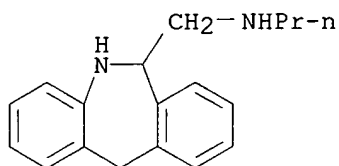
RN 41218-84-2 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro- (9CI) (CA INDEX NAME)



RN 41218-94-4 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-(phenylmethyl)- (9CI)
 (CA INDEX NAME)



RN 41508-70-7 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-propyl- (9CI) (CA INDEX NAME)

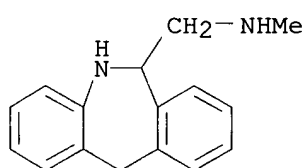


IT 21535-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization with phosgene)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



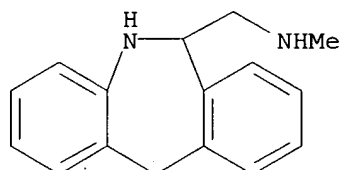
IT 41218-79-5P 41218-80-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 41218-79-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl-, (+)- (9CI)
(CA INDEX NAME)

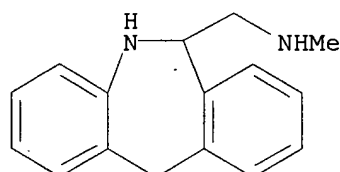
Rotation (+).



RN 41218-80-8 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl-, (-)- (9CI)
(CA INDEX NAME)

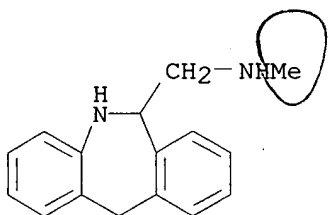
Rotation (-).



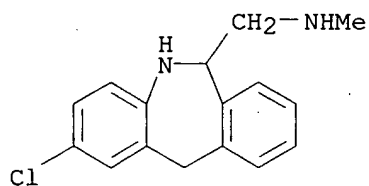
ANSWER 31 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1973:72243 CAPLUS
 DOCUMENT NUMBER: 78:72243
 TITLE: Piperazine derivatives
 PATENT ASSIGNEE(S): AKZO N. V.
 SOURCE: Neth. Appl., 10 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| NL 7107667 | | 19721206 | NL 1971-7667 | 19710604 |
| AT 317223 | | | AT | |
| CA 965091 | | | CA | |

GI For diagram(s), see printed CA Issue.
 AB Piperazinodibenzoazacycloalkanes I (Q = CH₂, R = H, 8-Cl, 8-OMe, R₁ = H; Q = O, R = H, 7-Me, R₁ = H, Me; Q = direct bond, R = R₁ = H) were prepared by cyclizing amines II with BrCH₂CH₂Br and Et₃N. Yields were 36-75% in the absence of solvent and decreased with the use of solvent.
 IT 21535-45-5 40132-44-3 40132-45-4
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of, with dibromoethane)
 RN 21535-45-5 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

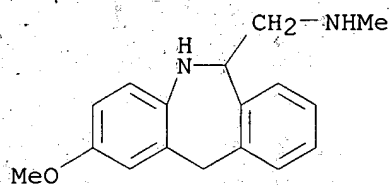


RN 40132-44-3 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 2-chloro-6,11-dihydro-N-methyl- (9CI)
 (CA INDEX NAME)



RN 40132-45-4 CAPLUS
 CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-2-methoxy-N-methyl- (9CI) (CA INDEX NAME)

10/510,008



10/510,008

16 ANSWER 32 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1970:43609 CAPLUS

DOCUMENT NUMBER: 72:43609

TITLE: Novel type of substituted piperazine with high antiserotonin potency

AUTHOR(S): Van der Burg, W. J.; Bonta, I. L.; Delobelle, J.; Ramon, C.; Vargaftig, B.

CORPORATE SOURCE: Res. Lab., N. V. Organon, Oss, Neth.

SOURCE: Journal of Medicinal Chemistry (1970), 13(1), 35-9
CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 72:43609

GI For diagram(s), see printed CA Issue.

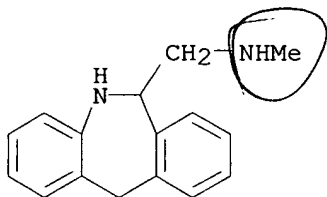
AB Speculation as to the structural relationship between phenbenzamine and cyproheptadine (I) led to the synthesis of a series of tetracyclic compds. containing as a characteristic moiety a condensed piperazine ring resulting from the fixation of the ethylenediamine chain of phenbenzamine, whereas the two benzene nuclei of the latter are linked by a bond or a bridge of one or 2 C atoms. The piperazine ring system was formed by condensation of the respective diamines with diethyl oxalate (Riebsomer reaction), followed by reduction with diborane or LiAlH₄. These compds. as well as II were tested pharmacol. and one of them, 2-methyl-1,2,3,4,10,14b-hexahydro-2H-pyrazino[1,2-f]morphanthridine (III), mianserin, proved to have an antiserotonin potency of the same order as I. In animals III was found to have a less pronounced central depressant effect and lower acute toxicity than I.

IT 21535-45-5P 25577-92-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)



RN 25577-92-8 CAPLUS

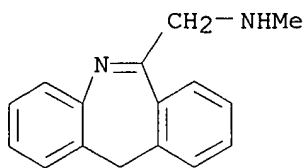
CN Morphanthridine, 6-[(methylanino)methyl]-, maleate (1:1) (8CI) (CA INDEX NAME)

CM 1

CRN 46880-91-5

CMF C16 H16 N2

10/510,008

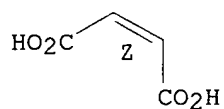


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



166 ANSWER 33 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1969:47499 CAPLUS
 DOCUMENT NUMBER: 70:47499
 TITLE: Substituted piperazines
 PATENT ASSIGNEE(S): Organon N.V.
 SOURCE: Neth. Appl., 19 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| NL 6603256 | A | 19670913 | NL 1966-3256 | 19660312 |
| DE 1695556 | B2 | 19801030 | DE 1967-N30139 | 19670309 |
| DE 1695556 | C3 | 19810625 | | |
| DE 1695556 | A | 19720120 | | |

PRIORITY APPLN. INFO.: NL 1966-3256 A 19660312

OTHER SOURCE(S): MARPAT 70:47499

AB Pyrazinophenanthridines, dibenzopyrazinoazocines and the title compds., are prepared by standard methods and have antiinflammatory, antiserotonin, antihistamine and antiphlogistic activity; the intermediates I have sympathomimetic and appetitereducing properties and spasmolytic activity. Thus, 45 g. PhNHCHPhCH₂COR (I, R = OEt) (II) m. 84-5° is added with stirring to 350 ml. 20% MeNH₂ in MeOH to yield 87% I(R = NHMe) (III) m. 112-13° (MeOH). To a solution of 12 g. LiAlH₄ in 500 ml. anhydrous Et₂O is added 24 g. III by Soxhlet extraction and the mixture is refluxed 3 hrs. and worked up to yield 70% PhNHCHPhCH₂NHR (IV, R = Me).HCl (V), m. 232°. A mixture of 21.2 g. V and 18.25 ml. (CO₂Et)₂ is heated 0.5 hr. at 100-60° and kept 0.5 hr. at 160-80° to yield 60% 1,2-diphenyl-4-methyl-5,6-dioxopiperazine (VI), m. 171° (C₆H₆). A solution of 6 g. VI in 400 ml. anhydrous tetrahydrofuran (THF) is reduced with

a stream of diborane in N while the solution is gradually heated to the b.p. The mixture is refluxed 1.5 hrs. and worked up to yield 1,2-diphenyl-4-methylpiperazine.HCl (VII), m. 217°. Similarly prepared are the following: IV(R = H).maleate, m. 158-60°, 1,2-diphenyl-5,6-dioxopiperazine, m. 198-202° [HCONMe₂ (DMF)-H₂O], and 1,2-diphenylpiperazine.2HCl (VIII), m. 249-54° (EtOH-Et₂O). A mixture of 10 g. VIII, 1.9 ml. AcOH, 4.5 ml. 2-vinylpyridine and 12 ml. MeOH is refluxed 16 hrs. to yield 10 g. 1,2-diphenyl-4-(α-pyridylethyl)-piperazine, m. 90-2°; 3 HCl salt, m. 140-5°. A suspension of 120 g. 6-chloromethylphenanthridine(VIIIa), m. 130-4°, in 1700 ml. 12% MeNH₂ in C₆H₆ is kept 18 hrs. in a refrigerator and stirred occasionally to yield 107 g. oily 6-methylamino-methylphenanthridine (IX), which is dissolved in 750 ml. anhydrous Et₂O and added with stirring under N to a mixture of 50 g. LiAlH₄ and 250 ml. Et₂O. The mixture is refluxed 1.5 hrs. to yield 90 g. oily 5,6-dihydro-derivative (X) of (IX). A mixture of 65

g. X and 50 ml. (CO₂Et)₂ is treated as described for VI to yield 1,2-dioxo-3-methyl - 2,3,4,4a - tetrahydro - 1H -pyrazino[1,2 - f]phenanthridine (XI), m. 227-9° (DMF-PhMe). XI (20.8 g.) is treated as described for VII to yield 16.6 g. 3-methyl-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]phenanthridine.HCl (XII), m. 235-40° (decomposition) (MeOH-Et₂O). The following XC₆H₄NHCHPhCH₂COR (XIII, R = OEt) are prepared (X and m.p. given): p-Cl 79-80°; p-MeO, 45-6°; and VIII (R = NHMe) (X, % yield, and m.p. given): p-Cl, 78, 112-13° (EtOH); p-Br,

86, 144-6° (C₆H₆); p-MeO, 80, 126-8° (EtOH). The substituted III are converted into the corresponding XC₆H₄NHCHPhCH₂NHMe by the method described before (X, % yield, and m.p. given): p-Cl, 60, 269-72° (H₂O); p-Br, 70, 263-6° (DMF-H₂O); p-MeO, 70, 198-9° (EtOH). These compds. are converted into the following 1-(substituted)phenyl-2-phenyl-4-methyl-5,6-dioxopiperazines (substituent, % yield, and m.p. given): p-Cl, 55, 179-81° (C₆H₆); p-Br, 50, 203-4° (C₆H₆); p-MeO, 75, 189-91° (EtOH). These compds. are converted into the corresponding VII [substituent on 1-phenyl group, m.p. base, and m.p. salt (with X HCl) given]: p-Cl, 102-4° (EtOH-H₂O), 2 HCl, 226-9° (EtOH); p-Br, 112-13° (EtOH-H₂O), 1 HCl, 250-4° (EtOH); p-MeO, 103-5° (EtOH), 2 HCl, 201-4° (EtOH). Starting with the 2-bromo derivative (XIV) of IX via the 2-bromo derivative of X the 10-bromo derivative (XIa) m. 251-3°, of XI is prepared, which is reduced with NaBH₄ to yield the 10-bromo derivative HCl m. 245° (decomposition) of XII. Similarly, 1,2-dioxo-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]phenanthridine, m. 265-70° is reduced with LiAlH₄ to yield 2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]phenanthridine (XV). Starting with XIV and ClCH₂COCl followed by reaction with α-pyridylethylamine 1-p-methoxyphenyl-2-phenyl-4-(α-pyridylethyl)-3,6-dioxopiperazine, m. 136-7°, is prepared which is reduced with LiAlH₄ to yield 1-p-methoxyphenyl-2-phenyl-4-(α-pyridylethyl)-piperazine, m. 97-9°. Similarly is prepared 1-p-chlorophenyl-2-phenyl-4-(dimethylaminoethyl)-3,6-dioxopiperazine.HCl, m. 241°, which is reduced with diborane to yield 1-p-chlorophenyl-2-phenyl-4-(dimethylaminoethyl)piperazine.2HCl, m. 258°. Starting with II 1,2-diphenyl-4-(α-pyridylethyl)-3,6-dioxopiperazine, m. 163-5°, is prepared which is reduced with LiAlH₄ to yield 1,2-diphenyl-4-(α-pyridylethyl)piperazine, m. 90-1°. Also are prepared 1-p-chlorophenyl-2-phenylpiperazine.HCl, m. 200°; 1,2-diphenyl-4-phenylmethyl-5,6-dioxopiperazine, m. 154-6°; 1,2-diphenyl-4-phenylmethylpiperazine, m. 214°; and 1-p-chlorophenyl-2-phenyl-4-phenylmethylpiperazine.2HCl, m. 214°. To a mixture of 10 g. 6-aminomethyl-5,6-dihydrophenanthridine (XVI), 200 ml. anhydrous C₆H₆ and 4.2 ml. anhydrous C₅H₅N, cooled to 5-10° is added dropwise with stirring in 20 min. a solution of 8.3 ml. ClCOCH₂Ph in 10 ml. C₆H₆; the mixture is kept 15 min. with stirring at 10° and 45 min. at room temperature to yield 14.5 g. oily (6-(N-benzyloxycarbonyl) derivative (XVII) of XVI. To 14.5 g. XVII, dissolved in 100 ml. C₆H₆ is added 1 mole C₅H₅N and dropwise 1.25 mole ClCH₂COCl at 10-5° with stirring. The mixture is stirred 30 min. at room temperature and 30 min. at 50°, to yield 85% 5-chloroacetyl derivative of XVII, which is treated 1 hr. in EtOH with H over Pd/C to remove the benzyloxycarbonyl group. After addition of C₅H₅N and ring closure, the 6-oxopiperazine formed is reduced to yield XV. To a solution of 25 g. 2-benzylaniline in 150 ml. C₆H₆ is added with stirring at 8° 15 ml. C₅H₅N and a solution of 15 ml. ClCH₂COCl in 25 ml. C₆H₆ at 10-5°. The mixture is stirred 1 hr. at room temperature and worked up to yield 18 g. 2-PhCH₂C₆H₄NHCH₂COCl (XVIII) m. 130-3° (C₆H₆). A mixture of 40 g. XVIII, 50 ml. POCl₃, and 320 g. polyphosphoric acid is heated 2 hrs. at 120° to yield 24 g. 6-chloromethylmorphanthridine (XIX), m. 136-7°. XIX (10 g.) is converted into 11 g. crude 6-methylaminomethylmorphanthridine, which is reduced with LiAlH₄ to yield 11 g. light yellow oily, 5,6-dihydro derivative (XX). From 10 g. XX and 7 g. (CO₂Et)₂ via the method used for VI is obtained 9 g. 1,2-dioxo-3-methyl-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]morphanthridine, m. 245-7° (DMF), which is reduced with diborane to yield 3-methyl-2,3,4,4a-tetrahydro-1H-pyrazino[1,2-f]morphanthridine.HCl, m. 256-66°

(decomposition). A mixture of 10 g. 5H-dibenzo[a,d]-cyclohepten-5-one oxime, 5 ml. SOCl_2 and 30 ml. C_6H_6 is refluxed 16 hrs. to yield 10.5 g. crude 6-chlorodibenz[b,f]azocine (XXI). A mixture of 10 g. XXI, 100 ml. anhydrous DMF and 5 g. NaCN is refluxed 0.5 hr. to yield 6.2 g. 6-cyanodibenz[b,f]-azocine (XXII), m. $135-6^\circ$ (MeOH). A solution of 6 g. XXII in 80 ml. anhydrous THF is added dropwise with stirring under N to a mixture of 13 g. LiAlH_4 in 300 ml. anhydrous THF. The mixture is refluxed 16 hrs. and worked up to yield 6 g. oily 6-aminomethyl-5,6-dihydrodibenz[b,f]azocine (XXII). A mixture of 6 g. XXII and 50 ml. anhydrous HCO_2Me (free of HCO_2H) is refluxed 2 hrs. to yield 6.3 g. 6-formyl derivative XXIII of XXII. XXIII (5 g.) is reduced with LiAlH_4 in THF to yield 4.8 g. 6-methylaminomethyl-5,6-dihydrodibenz[b,f]azocine, which is converted with 3.6 ml. $(\text{CO}_2\text{Et})_2$ into 2.9 g. 1,2-dioxo-3-methyl-2,3,4,4a-tetrahydro-1H-dibenzo[c,g]pyrazino[1,2-a]azocine (XXIV). From 10 g. XXIV is obtained by reduction with diborane in THF 6.6 g. 3-methyl-2,3,4,4a-tetrahydro-1H-dibenzo[c,g]pyrazino[1,2-a]azocine.HCl. Starting with 2,4- $\text{PhBrC}_6\text{H}_3\text{NHCOC}_6\text{H}_5$, m. $108-10^\circ$, the 2-bromo derivative (XXV), m. $186-8^\circ$, of XIIIa is prepared by the method used for XIX and is converted with MeNH_2 , and then is converted via XIa into oily XII.

IT 21535-45-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 21535-45-5 CAPLUS

CN 5H-Dibenz[b,e]azepine-6-methanamine, 6,11-dihydro-N-methyl- (9CI) (CA INDEX NAME)

